

GEI Consultants, Inc.

GEOTECHNICAL

ENVIRONMENTAL

WATER RESOURCES

ENGINEERING

.....

**Drum Removal
Release Abatement
Measure
Status Report No. 2
and
Completion Statement**

Olin Property
Wilmington, MA
RTN 3-0471



GEI Consultants, Inc.

1021 Main Street
Winchester, MA 01890-1970
781.721.4000

SUBMITTED TO

Olin Environmental Management Inc.
1186 Lower River Road, NW
Charleston, TN 37310-0248

A handwritten signature in cursive script, reading "M. Margaret Hanley", is written over a horizontal line.

M. Margaret Hanley, LSP
LSP of Record

July 12, 2001
Project Number 97598

Table of Contents

Executive Summary	iii
1. Introduction	1
1.1 Background	1
1.2 Contact Information	1
1.3 RAM Objective	2
2. Plans and Permits	3
2.1 RAM Plan	3
2.2 RAM Plan Modifications	3
2.3 Other Permits	3
3. Status of RAM Activities	4
3.1 Drum Area A	4
3.2 Drum Area B	5
4. Remediation Waste Management	7
4.1 Drum Area A	7
4.2 Drum Area B Soil and Dewatering Effluent	7
4.3 Overpacks	7
4.4 Metal Debris	8
5. Other Monitoring Activities	9
5.1 Meteorological Data	9
5.2 Air Quality Monitoring	9
5.2.1 Data Review	9
5.2.2 Airborne Dust Monitoring	10
5.2.3 VOC Monitoring	11
6. Deviations from RAM Plan and Other Approvals	12
7. RAM Completion Statement	13

Tables

1. Summary of Meteorological Data
2. Summary of Dust Monitoring Results
3. Summary of Individual VOCs Detected in Work Zone Samples
4. Summary of Total VOC Results

Figure

1. Proposed Work and Work Completed Through May 2001

Appendices

- A. MADEP RAM Status Report Transmittal Form
- B. RAM Approval Letter
- C. Permits
- D. Results of Disposal Testing
- E. Off-site Disposal Shipping Documents
- F. Air Monitoring Data and Records

M:\PROJECT\1997\97598\Reports\D-RAM SR2&CS5 071301.doc

Executive Summary

The purpose of the Drum Removal Release Abatement Measure (RAM) was to remove buried drums, parts of drums, and other debris reported to be present in two areas, referred to as Drum Areas A and B, at the southern end of the developed portion of the Olin Corporation (Olin) Property.

Between August 7, 2000 and May 2001, the following activities were performed as part of the RAM:

- Excavation of approximately 3,200 cubic yards (cy) of soil; 160 overpacks of old drums, crushed drums and drum parts; and 34 tons of metal debris from Drum Area A.
- Collection and chemical analysis of 34 confirmatory soil samples from the Drum Area A excavation base and sidewalls.
- Backfilling of Drum Area A with a mixture of excavated soil, blast rock, and suitable on-property borrow.
- Excavation of approximately 1,150 cy of soil; 3 overpacks of drum parts; and 2 tons of metal debris from Drum Area B. No intact drums were encountered in Drum Area B.
- Collection and chemical analysis of 16 confirmatory soil samples from the Drum Area B excavation base and sidewalls.
- Backfill of Drum Area B with excavated soil and suitable on-property borrow.
- Treatment of contaminated groundwater and surface water associated with the Drum Area A excavation.
- Off-site disposal of 5 rollofs containing the most contaminated soil excavated from Drum Area A.
- Off-site disposal of a total of approximately 54 tons of metal debris excavated at the Site. This amount includes approximately 50 tons from the Drum Area excavations and approximately 4 tons of additional metal debris encountered during other concurrent, remediation work performed at the Property.

- Preparation of Drum Removal RAM Status Report No. 1, dated December 22, 2000. Status Report No. 1 was submitted to MADEP at the end of December, 2000.
- Characterization and off-site disposal of 163 over packed drums and drum remnants recovered from the excavation areas.
- Characterization and off-site disposal of approximately 200 cy of soil from Drum Area A.
- Evaluation of Meteorological and Air Monitoring data collected during field activities associated with the RAM.

It is my opinion that these activities were performed in substantial accordance with the RAM Plan and the Massachusetts Department of Environmental Protection (MADEP) conditional approval of the RAM Plan, dated February 14, 2000.

As described in Status Report No. 1, the following minor modifications to the RAM Plan were made:

- Excavated soil with moderate levels of contamination based on field screening was stockpiled on a lined, bermed pad located east of the warehouses, instead of on two sheets of plastic as proposed in the RAM. The pad was used because it was a more secure storage system than plastic sheets.
- Plastic sheets were not placed below excavated soil stockpiles with low levels of contamination because these stockpiles were located within the Containment Area and plastic covers alone were sufficient to minimize potential contaminant leaching.
- Dewatering effluent from Drum Area A was treated using a mobile treatment plant instead of the Plant B treatment system. This change was made because the mobile treatment plant, which was initially setup to treat dewatering effluent from the concurrent ditch excavations, was more convenient to use than the Plant B treatment system. All treated water was managed in accordance with a National Pollution Discharge and Elimination Service (NPDES) Permit Exclusion. Monitoring data for the NPDES Permit Exclusion are summarized in the Part 2 RAM Status Report No. 1.
- Dewatering effluent from Drum Area B was recharged adjacent to the excavation within the Containment Area. This was done because the volume of water was small and consisted primarily of storm water.

- Arsenic was eliminated from the confirmatory testing suite because the inclusion of arsenic as a site-related Contaminant of Concern (COC) in the RAM Plan was an error. The parameters reactivity, ignitability, and pH were also eliminated based on field observations.

It is my opinion that these deviations are not significant, and have not affected the integrity of the RAM activities.

As a result of the Drum Removal RAM, a potential Substantial Hazard, as defined in the Massachusetts Contingency Plan (310 CMR 40.0000 [MCP]), at the Olin Property has been eliminated. Buried drums and debris known or suspected to be present in the Drum Areas have been excavated and removed for characterization and/or off-site disposal. Confirmatory soil sampling from the excavation base and sidewalls of each area demonstrates that remaining soils exhibit concentrations of site-related contaminants that are well below the Upper Concentration Limits (UCLs), and in most cases below the S-3 soil standards listed in the MCP.

Information presented in this document and the previous Status Report No. 1 support the filing of a RAM Completion Statement in accordance with the applicable provisions of the MCP (310 CMR 40.0440).

1. Introduction

1.1 Background

This document is the final Status Report and Completion Statement for the Drum Removal Release Abatement Measure (the RAM) at the Olin Property at 51 Eames Street in Wilmington, Massachusetts (the Property). A plan of the Property showing the location of the Drum Removal Areas is presented as Figure 1. The Property is part of the area that constitutes the entire Olin Site (RTN 3-0471). The Olin Site is a Tier 1A Site, as defined in the MCP. Separate MADEP-approved response actions are ongoing for areas of the Olin Site beyond the Property. The original RAM Status Report transmittal form (BWSC-106) for this document is attached and a copy is contained in Appendix A. This Status Report includes work performed between December 9, 2000, and May 2001.

These activities were performed concurrent with a separate RAM to excavate contaminated ditch sediments and install a subsurface containment wall around the on-property DAPL, referred to as the Part 2 Construction Related RAM Plan (Part 2 RAM). The Part 2 RAM Plan is ongoing, and separate status reports for the Part 2 RAM have and will be submitted to MADEP in the future.

Under an existing Immediate Response Action (IRA), remedial actions were performed at the Plant B area of the Property concurrent with this RAM. The Plant B IRA that occurred between January and July 2001 includes the operation of a groundwater recovery and treatment system and installation and Pilot Testing of a soil-vapor extraction system. These activities will be summarized in a IRA Status Report that will be submitted to MADEP in July 2001.

1.2 Contact Information

**Responsibility for the
Construction-Related RAM**
Steve Morrow, P.E.
Olin Corporation
1186 Lower River Road
Charleston, TN 37310
423.336.4511

Licensed Site Professional
M. Margret Hanley, LSP No. 8494
Sleeman, Hanley, and DiNitto
c/o GEI Consultants, Inc.
1021 Main Street
Winchester, MA 01890
781.721.4000

Engineer-of-Record

Thomas W. Kahl, P.E., No. 37805
GEI Consultants, Inc.
1021 Main Street
Winchester, MA 01890
781.721.4000

1.3 RAM Objective

The objective of this RAM is the excavation and removal of buried drums, debris, and associated impacted soil from two areas (Drum Areas A and B) at the Property. The removal of the drums and debris, and associated contaminated soil was required to eliminate a potential substantial hazard as defined in the MCP, and to eliminate exceedances of Upper Concentration Limits (UCLs) in soil.

2. Plans and Permits

2.1 RAM Plan

The RAM Plan for this work was submitted to MADEP on January 18, 2000. The RAM Plan was conditionally approved by MADEP on February 14, 2000. A copy of the approval letter is contained in Appendix B. The locations that are the subject of this RAM Plan (Drum Areas A and B) are depicted on Figure 1. Site features that are relevant to the implementation of this RAM Plan, including the locations of soil, debris, and overpack staging areas, and the mobile water treatment system, are also depicted on Figure 1.

2.2 RAM Plan Modifications

MADEP's conditional approval of the January 18, 2000 RAM Plan requested that an area located east of and adjacent to Drum Area A, referred to as the Buried Debris Area, be excavated as part of this RAM. However, the Buried Debris Area is located within portions of the On-Property West Ditch Wetland, which is subject to the Part 2 RAM Plan. Therefore, the Buried Debris Area excavation was incorporated into the Part 2 RAM. There were no other significant modifications of the RAM Plan that required MADEP notification or approval. Minor notifications made during the course of the following RAM are described in the following text.

2.3 Other Permits

Implementation of this RAM required that an Order of Conditions be granted by the town of Wilmington for work in and near wetland areas. The Order of Conditions was granted on February 17, 2000. A copy of the Order of Conditions is contained in Appendix C. Dewatering during the implementation of this RAM was performed in accordance with a National Pollution Discharge Elimination System (NPDES) Permit Exclusion issued to Olin Corporation by the U.S. Environmental Protection Agency (USEPA) for construction dewatering the Part 2 RAM. A copy of the NPDES Permit Exclusion is contained in Appendix C.

3. Status of RAM Activities

3.1 Drum Area A

Drum Area A is located at the west-central part of the Property, as depicted in Figure 1.

The excavation and removal of drums and debris from Drum Area A occurred between August 15 and October 7, 2000. Details of the excavation of Drum Area A were presented in Status Report No. 1 dated December 22, 2000. In summary, Drum Area A was excavated to an average depth of 8 feet below the ground surface (bgs). The total excavation volume in this area was approximately 3,200 cy. Based on visual and jar headspace screening in the field with a photoionization detector (PID), excavated soil was segregated into three categories: visibly stained soil which was placed in five 20-cy roll-off containers; moderately contaminated soil which was placed on the lined pad east of the warehouses in 150-cy stockpiles; and soil with little or no evidence of contamination which was placed in covered 250-cy stockpiles south of the excavation and within the Containment Area. The location of the Containment Area is shown on Figure 1.

All of the soil stockpiles were tested for semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), pesticides, cadmium, chromium, and lead to establish potential suitability for on-Property reuse. The sampling methods and results of the reuse testing are summarized in Status Report No. 1. Based on the results of the reuse testing, all of the stockpiled soil from Drum Area A was suitable for reuse. About 500 cy of soil stockpiled within the Containment Area was used to backfill Drum Area B. The remainder of the soil stockpiled within the Containment Area and most of the soil stockpiled on the lined pad, a total of about 2,500 cy, was used as backfill in Drum Area A. However, about 200 cy of stockpiled soil on the lined pad was not used as backfill due to the presence of solid debris and pockets of visibly stained soil. This stockpile was characterized and shipped off-site for disposal in April 2001.

Between August 15 and October 7, 2000, drums and semi-intact drums were identified and removed from Drum Area A. Intact drums, semi-intact drums, and spilled drum contents encountered during the excavation were placed in 85-gallon and 110-gallon overpack containers. A total of 160 overpacks from Drum Area A were temporarily stored in the West Warehouse and characterized for disposal. In February and April 2001, these drums were shipped off-site for disposal.

Approximately 48 tons of metal debris, primarily consisting of empty crushed drums and drum parts, were also removed from Drum Area A. Prior to removal from the excavation, the debris was cleaned of soil and residual liquids. The debris was removed from the Property as nonhazardous solid waste in November 2000.

The limits of the excavation were confirmed by performing test pits and a metal detector survey along the bottom and sides of the excavation.

At the completion of excavation, confirmatory samples were collected at a grid spacing of approximately 25 feet along the bottom and sidewalls. A total of 34 confirmatory samples were collected from this area for laboratory testing. All of the samples were tested for SVOCs, VOCs, pesticides, cadmium, chromium, and lead. Selected samples were also tested for corrosivity (pH). The sampling methods and results of the laboratory testing were presented in the initial Status Report (GEI, December 2000).

Based on the analysis of confirmatory samples, contaminant concentrations were reduced to below the established reuse criteria (UCLs). Therefore, the remedial objectives were met in this area.

Between September 29 and October 9, 2000, the excavation was backfilled in three layers, starting from bottom: blast rock from the Detention Pond; excavated soil from Drum Area A that met reuse criteria; and borrow soil from areas adjacent to the excavation.

3.2 Drum Area B

Drum Area B is located at the east central portion of the Property, as shown in Figure 1.

Between August 7 and 10, 2000, Drum Area B was excavated to an average depth of 6 feet bgs. The total excavation volume in this area was approximately 1,150 cy.

Based on visual and PID field screening, excavated soil was segregated and stockpiled. All of the soil stockpiles were tested for SVOCs, VOCs, pesticides, cadmium, chromium, and lead to establish potential suitability for on-Property reuse. The sampling methods and testing results for the stockpiled soil from Drum Area B were presented in Status Report No. 1.

Based on the results of the reuse testing, all of the stockpiled soil from Drum Area B was suitable for reuse. About 650 cy of the stockpiled soil was used as backfill in Drum Area B. The remainder of the soil, about 500 cy, was not structurally suitable for use as backfill due to high organic content (peat). The high organic content soil was stabilized with cement along with the calcium sulfate from the former berm near Drum Area B, and was used as shallow backfill within the Containment Area. The reuse of cement-stabilized soil is discussed in the Part 2 RAM Status Report No. 1.

No intact drums or spilled liquid drum contents were encountered during the excavation. However, between August 7 and 10, 2000, the excavation generated 3 overpack containers of solid waste, primarily pieces of Kempore and resin. The overpacks were stored in the West Warehouse, and characterized for off-site disposal. The testing results for overpack drums from Drum Area B are presented in Appendix D. In February and April 2001, these drums were shipped off-site for disposal.

Approximately 2 tons of metal debris, primarily consisting of empty crushed drums and drum parts, were also removed from Drum Area B. The metal debris was sent for off-site disposal with the debris from Drum Area A in November 2000.

The limits of the excavation were confirmed by over-excavation and by performing test pits along the east sidewall.

At the completion of excavation, confirmatory samples were collected at a grid spacing of approximately 25 feet along the bottom and sidewalls. A total of 16 confirmatory samples were collected from this area for laboratory testing. All of the samples were tested for SVOCs, VOCs, pesticides, cadmium, chromium, and lead. The results of the laboratory testing are summarized in Status Report No. 1. Based on the results of the laboratory testing of the confirmatory soil samples, contaminant concentrations were reduced to below the established reuse criteria (UCL). Therefore, the remedial objectives were met for this area.

The excavation was backfilled in three layers, starting from bottom: excavated soil from Drum Area B that met reuse criteria; excavated soil from Drum Area A that met reuse criteria; and borrow soil from areas adjacent to the excavation.

4. Remediation Waste Management

4.1 Drum Area A

Five roll-offs containing 86.5 tons of visibly contaminated soil from Drum Area A were sent for off-site disposal to CWM Chemical Services, L.L.C., in Model City, New York, as non-hazardous solid waste on October 27 and 30, 2000. The material was received at the facility on October 30 and October 31, 2000. Results of disposal testing are presented in Appendix D. Copies of the Non-Hazardous Waste Manifests are presented in Appendix E.

Approximately 200 cubic yards of soil excavated from Drum Area A was judged unsuitable for on-site reuse based on visual evidence of contamination. In April 2001, this soil was sent for off-site disposal to CWM Chemical Services, L.L.C., in Model City, New York, as non-regulated material. The Drum Area A soil was incorporated into the larger scope of soil disposal associated with the Part 2 RAM. Results of disposal testing are presented in Appendix D. Copies of the associated Non-Hazardous Waste Manifests will be reported in the Part 2 RAM Status Report No. 2 in August 2001.

Dewatering effluent generated during excavation and backfilling was treated using a mobile treatment plant and discharged under an NPDES Permit Exclusion issued to Olin in August 2000. Monitoring data associated with the NPDES Permit Exclusion was presented in the Part 2 RAM Status Report No. 1, dated December 27, 2000.

4.2 Drum Area B Soil and Dewatering Effluent

No soil from Drum Area B required off-site disposal.

Dewatering effluent, which primarily consisted of a small volume of storm water, was recharged within the Containment Area just west of the Drum Area B excavation.

4.3 Overpacks

One hundred sixty-three (163) drum overpacks containing intact drums, semi-intact drums, spilled drum contents, and solid waste from Drum Areas A and B were stored at the Property in the West Warehouse. From August through October 2001, personnel from Severson Environmental Services, Inc. (Severson) collected samples from 160 drums for disposal characterization. Results of disposal testing are presented in Appendix D.

On February 1, 2001, 29 drums containing hazardous waste were shipped off-site for disposal at CWM Chemical Services, L.L.C., in Model City, New York. The drums were received at the facility on February 2, 2001. Copies of the Hazardous Waste Manifests are presented in Appendix E.

On April 20, 2001, 134 drums of non-hazardous material were shipped off-site for disposal at Chemical Waste Management, Inc. of Emelle, Alabama. The drums were received at the facility on April 23, 2001. Copies of the Non-Hazardous Waste Manifests are presented in Appendix E.

4.4 Metal Debris

On November 2 and 6, 2000, approximately 54 tons of metal debris from the Drum Areas and other remedial activities at the Property performed as part of the Part 2 Ram were shipped off-site for disposal at CWM Chemical Services, L.L.C., in Model City, New York. The shipments were received at the disposal facility on November 3 and 7, 2000. Copies of the Non-Hazardous Waste Manifests are presented in Appendix E.

5. Other Monitoring Activities

5.1 Meteorological Data

Meteorological data was collected daily during construction, as required by the RAM Plan. The meteorological data for the period of active excavation and drum handling (August 2 through October 9, 2000) is presented in Table 1.

5.2. Air Quality Monitoring

Air quality monitoring was generally performed whenever excavation and /or drum removal was conducted. These activities were performed between August 7 and October 9, 2000.

Real-time Work Zone air monitoring was performed by Severson for carbon monoxide, VOCs, hydrogen-sulfide, and lower explosion limit using a multi-gas meter with PID, and for airborne dust using a Sibata real-time dust monitor. Based on field monitoring and prudence, Level B or C personnel protection levels were implemented in the Work Zone during active excavation and drum removal. Real-time monitoring data provided by Severson is presented in Appendix F.

As a verification of the real time monitoring conducted during the drum removal activities, time weighted average (TWA) air monitoring for dust and VOCs (generally 8 to 10 hours sampling time) was performed on 11 days and 16 days, respectively. Two types of locations were established for TWA air monitoring at the Property: *Work Zone* monitoring locations, which were within the active excavation and/or along the excavation limits, and *Perimeter* locations which were at distances greater than 250 feet from the edge of the excavation area, and are located on the Olin Property. Air monitoring locations are shown on Figure 1. TWA air monitoring data are presented in Appendix F.

5.2.1 Data Review

Time Weighted air monitoring data provided to GEI by Severson was reviewed by GEI for completeness and quality control. A total of 69 six-liter SUMMA canisters were analyzed for volatile organic compounds by EPA GC/MS method TO-15 by Research Triangle Parks Labs of Raleigh, North Carolina. In addition, to the TO-15 reporting list of 41 compounds, a library search was conducted for tentatively-identified compounds (TICs).

A review of the available quality control information for the TO-15 data found that both surrogate and internal standard recoveries were within acceptable control limits for all samples. The lab noted that an NIST-certified gas standard of all target analytes at 1 ppm

was used for calibration. No method blank information was provided for review in the data packages provided by Severson. The data is considered acceptable for its intended purpose of health and safety monitoring and documenting volatile concentrations in ambient air around the site during the RAM.

A completeness review was also conducted on the total particulate and total chromium data. A total of 49 air filter samples were analyzed for total particulate analysis by NIOSH method 0500 by Philip Analytical Services (Philip) of Reading, Pennsylvania. Fifty air filter samples were also analyzed by Philip for total chromium by NIOSH method 7600M. The total volume of each air sample was provided on the chain-of-custody.

Total chromium method blank information provided by the lab indicated that up to 0.0006 mg/m^3 of total chromium was found in all of the method blanks associated with this project. Using standard EPA validation guidance, all samples with concentrations within five times this amount (0.003 mg/m^3) were flagged "B" as estimated and potential false positives. This resulted in all sample results being flagged "B" as estimated and potential false positives due to blank contamination. No calibration data for total particulates or chromium was provided for review. Data is considered useable for comparison to applicable benchmarks for total chromium (above 0.003 mg/m^3).

5.2.2 Airborne Dust Monitoring

The maximum TWA Fugitive Dust concentration (National Institute for Occupational Safety and Health [NIOSH] method 0500) measured at Work Zone locations was 0.54 mg/m^3 . Chromium concentrations for the TWA Work Zone dust samples (NIOSH method 7300M) ranged from 0.00055 to 0.0013 mg/m^3 . The NIOSH Recommended Exposure Limit (REL) TWA for chromium is 0.5 mg/m^3 . The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) TWA is 1 mg/m^3 . The maximum concentration of chromium detected in TWA airborne dust in the Work Zone (0.0013 mg/m^3) is slightly below the Massachusetts Threshold Effects Exposure Limit (24-hour average) for chromium (0.00136 mg/m^3). Note the data collected during the RAM is only suitable for comparison for applicable standards that are greater than 0.003 mg/m^3 . Nevertheless, real time monitoring for total and chromium dust establishes that dust levels in the work zone were very low. Work Zone TWA dust monitoring data is summarized in Table 2. The laboratory results for TWA dust monitoring are presented in Appendix F.

TWA dust monitoring was not conducted at the Perimeter locations, since numerous other activities that could contribute to the generation of dust were occurring at the Property during the Drum Removal and adjacent to the sampling locations. However, whenever visible evidence of dust was observed, dust suppression measures were implemented.

6. Deviations from RAM Plan and Other Approvals

It is my opinion that the activities associated with the excavation and removal of buried drums and debris at the Property, as described herein were performed in accordance with the RAM plan and the conditions of approval established by MADEP with the following exceptions noted:

- Excavated soil with moderate levels of contamination based on field screening was stockpiled on a lined, bermed pad located east of the warehouses, instead of on two sheets of plastic as proposed in the RAM. The pad was used because it was a more secure storage system than plastic sheets.
- Plastic sheets were not placed below excavated soil stockpiles with low levels of contamination because these stockpiles were located within the Containment Area and plastic covers alone were sufficient to minimize potential contaminant leaching.
- Dewatering effluent from Drum Area A was treated using a mobile treatment plant instead of the Plant B treatment system. This change was made because the mobile treatment plant, which was initial setup to treat dewatering effluent from the concurrent ditch excavations, was more convenient to use than the Plant B treatment system.
- Dewatering effluent from Drum Area B was recharged adjacent to the excavation within the Containment Area. This was done because the volume of water was small and consisted primarily of storm water.
- Arsenic was eliminated from the confirmatory testing suite because the inclusion of arsenic as a site-related COC in the RAM Plan was on error. The parameters reactivity, ignitability, and pH were also eliminated based on field observations.

It is my opinion that these deviations are not significant, and have not affected the integrity of the RAM activities.

7. RAM Completion Statement

The objective of this RAM is the excavation and removal of buried drums, debris, and associated impacted soil from two areas (Drum Areas A and B) at the Property. The removal of the drums and debris, and associated contaminated soil was required to eliminate a potential substantial hazard as defined in the MCP, and to eliminate exceedances of Upper Concentration Limits (UCLs) in soil.

It is my opinion that the activities were performed as part of the Drum Removal RAM, as described herein and in Status Report No. 1 (GEI, 2000), were in substantial accordance with the RAM Plan, the Massachusetts Department of Environmental Protection (MADEP) conditional approval of the RAM Plan, dated February 14, 2000, and the general requirements for RAMs described in the MCP (310 CMR 40.0440).

As a result of the Drum Removal RAM, a potential Substantial Hazard, as defined in the Massachusetts Contingency Plan (310 CMR 40.0000 [MCP]), at the Property has been eliminated. Buried drums and debris known or suspected to be present in the Drum Areas have been excavated and removed for characterization and/or off-site disposal. Confirmatory soil sampling from the excavation base and sidewalls of each area demonstrates that remaining soils exhibit concentrations of site-related contaminants that are well below the Upper Concentration Limits (UCLs), and in most cases below the S-3 soil standards listed in the MCP. Based on these findings, it is my opinion that the remediation goals for the RAM, as described above, have been met.

Finally, it is my opinion that this RAM Status Report and Completion Statement conforms to the general requirements for a RAM Completion Statement set forth in the MCP (310 CMR 40. 0446).

TABLES

Table 1.

Summary of Meteorological Data

Olin Chemical Property

51 Eames Street

Wilmington, Massachusetts

Date	Time	Temperature (F)	Wind Speed ^{1,2} (mph)	Wind Direction ^{1,2} (degrees)	Relative Humidity (%)	Barometric Pressure (inches Hg)	Rainfall ³ (inches)
8/2	1357	74	3	154	71	29.87	0
	1458	75	2	264	26	29.85	0
8/4	741	71	2	324	94	29.7	0.09
	1052	81	6	304	52	29.7	0
8/7	710	73	5	234	93	29.63	0
	1253	81	7	254	78	29.53	0
	1629	90	11	304	51	29.5	0
8/8	730	79	4	304	85	29.55	0
	1633	89	7	294	37	29.5	0
8/9	730	75	5	194	84	29.58	0
	1155	84	6	204	55	29.55	0
	1647	88	3	214	55	29.47	0
8/10	713	70	0	NA	95	29.5	0.06
	1621	90	8	304	32	29.5	0
8/11	924	82	5	54	59	29.65	0
	1550	82	10	94	42	29.64	0
8/14	645	63	5	4	98	29.72	0.18
8/15	711	66	5	344	98	29.75	0.07
	1246	72	5	44	79	29.77	0
	1649	75	2	354	75	29.75	0
8/16	725	67	4	174	97	29.62	0.01
	1332	73	6	204	89	29.5	0.53
	1535	83	4	254	59	29.45	0
8/17	655	62	6	274	83	29.65	0.01
	1054	76	5	264	44	29.65	0
	1656	76	8	284	36	29.65	0
8/18	829	67	0	NA	77	29.7	0
8/19	1021	74	2	334	63	29.7	0.08
8/21	719	58	3	284	80	30	0
	1650	80	6	304	30	30	0
8/22	706	59	2	304	88	30.05	0
	1312	81	4	204	22	30	0
	1755	78	4	204	41	30	0
8/23	732	62	5	164	93	30	0
	1159	77	8	184	51	29.9	0
	1717	70	9	194	63	29.82	0
8/24	721	63	0	NA	85	29.8	0.09
	1206	87	6	344	47	29.75	0
8/25	726	67	4	334	69	29.9	0
	1309	91	6	314	15	29.76	0
	1747	77	7	154	44	29.75	0
8/26	712	64	1	NA	86	29.7	0
	1202	85	5	174	28	29.7	0
	1728	80	4	94	44	29.6	0

Table 1.

Summary of Meteorological Data

Olin Chemical Property

51 Eames Street

Wilmington, Massachusetts

Date	Time	Temperature (F)	Wind Speed ^{1,2} (mph)	Wind Direction ^{1,2} (degrees)	Relative Humidity (%)	Barometric Pressure (inches Hg)	Rainfall ³ (inches)
8/28	915	70	2.9	110	NM	NM	0
8/29	1245	78	6	154	NM	NM	0
8/30	1630	82	4	164	NM	NM	0
8/31	1140	89	5	234	NM	NM	0
	1341	91	5	254	NM	NM	0
	1510	90	6	214	NM	NM	0
9/1	750	NM	7.7	204	NM	NM	0
9/5	1130	73	5	344	25	30.02	0.56
	1716	71	7	344	24	30.05	0
9/6	710	52	4	324	80	30.25	0
	1240	75	6	344	28	30.25	0
	1612	66	10	144	34	30.2	0
9/7	725	52	0	NA	86	30.15	0
	1710	77	2	194	32	29.96	0
9/8	1230	80	7.5	240	NM	NM	0
9/9	1000	78	2	294	NM	NM	0
9/11	821	62	0	NA	96	29.95	0
	1335	82	4	124	39	29.85	0
	1717	75	6	114	61	29.85	0
9/12	711	64	9	184	93	29.82	0
	1432	82	7	184	48	29.65	0
9/13	757	69	2	214	97	29.55	0.23
	1802	76	3	274	41	29.65	0.01
9/14	1019	75	6	184	40	29.7	0
	1247	80	3	144	28	29.7	0
	1219	71	4	124	37	29.2	0
9/15	713	63	4	134	98	29.45	0.23
	1142	67	6	154	98	29.26	1
9/16	714	55	3	274	91	29.45	0.24
9/18	718	59	3	294	78	29.7	0.01
	1800	74	4	214	50	29.72	0
9/19	858	NM	3	184	80	29.75	0
	1613	76	9	194	59	29.67	0
9/20	720	67	7	334	98	29.45	0.6
	1203	80	7	324	NM	NM	0
	1740	79	5	194	67	29.45	0
9/21	727	68	7	194	91	29.35	0.02
	1710	75	4	294	40	29.45	0
9/22	800	59	3	254	68	29.8	0
	1559	75	2	284	31	29.8	0
9/23	740	57	0	NA	NM	NM	0
9/25	1730	57	4	134	59	29.7	0
9/26	907	57	4	354	77	29.75	0
	1755	56	8	354	95	29.7	0.2
9/27	740	51	3	314	95	29.75	0.1
	1830	61	0	NA	NM	NM	0

Table 1.**Summary of Meteorological Data**

Olin Chemical Property

51 Eames Street

Wilmington, Massachusetts

Date	Time	Temperature (F)	Wind Speed ^{1,2} (mph)	Wind Direction ^{1,2} (degrees)	Relative Humidity (%)	Barometric Pressure (inches Hg)	Rainfall ³ (inches)
9/28	808	56	4	344	88	29.75	0
	1707	66	5	354	36	29.95	0
9/29	750	50	4	324	69	30.15	0
	1637	56	7	134	37	30.15	0
9/30	821	49	4	174	73	30.12	0
10/2	730	52	1	NA	98	29.78	0
	1625	64	2	54	72	29.65	0
10/3	819	56	2	104	87	29.55	0
	1707	76	9	284	43	29.45	0
10/4	1816	65	6	324	85	29.6	0
10/5	807	58	5	344	82	29.8	0.02
	1557	57	1	NA	89	29.8	0.01
10/6	1030	55	NM	NM	NM	NM	0.6
10/7	1205	70	5	344	33	29.7	0
10/9	1700	48	5	334	60	29.8	0

General Notes:

F = Degrees Fahrenheit.

mph = Miles per hour.

Hg = Mercury.

NA = Wind direction could not be accurately determined for wind speeds less than 2 mph.

NM = Not measured.

Footnotes:

1. Wind direction relative to true north.
2. Wind speed and wind direction for 8/28, 9/1, and 9/8 based on data obtained from Bedford Hanscom Field, Bedford, Massachusetts.
3. Cumulative rainfall since previous measurement.

Table 2.
Summary of Dust Monitoring Results
Olin Chemical Property
51 Eames Street
Wilmington, Massachusetts

Sample Date	Sample ID	Lab ID	Map ID	Particulate, total [NIOSH 0500] (mg/m ³)	Chromium, total [NIOSH 7300M] (mg/m ³)	
8/9/00	Area B, Downwind	1415404	1-E	<0.096	0.00067	B
	Area B, North Perimeter	1415405	1-N	0.196	0.00065	B
	Area B, South Perimeter	1415402	1-S	<0.095	0.00066	B
	Area B, Workzone	1415403	1-WZ	<0.095	0.00067	B
8/10/00	Area B, Downwind	1415410	1-E	<0.11	0.0009	B
	Area B, North Perimeter	1415407	1-N	<0.11	0.0007	B
	Area B, South Perimeter	1415409	1-S	<0.1	0.0007	B
	Area B, Upwind	1415408	1-W	<0.11	0.0008	B
	Area B, Workzone	1415406	1-WZ	<0.17	0.0012	B
8/15/00	Area A, Downwind	1416259	2-S	<0.097	0.00068	B
	Area A, East Perimeter	1416255	2-E	<0.094	0.00066	B
	Area A, Upwind	1416258	2-N	<0.095	0.00057	B
	Area A, West Perimeter	1416256	2-W	<0.15	0.0011	B
	Area A, Workzone	1416257	2-WZ	NR	0.00063	B
8/17/00	Area A, Downwind	1416261	2-N	<0.18	0.0013	B
	Area A, Upwind	1416262	2-S	<0.16	0.0011	B
	Area A, East Perimeter	1416263	2-E	<0.15	0.0009	B
	Area A, Workzone	1416260	2-WZ	<0.16	0.001	B
	Area A, West Perimeter	1416264	2-W	<0.15	0.0011	B
8/25/00	Area A, Downwind	1417679	2-N	0.15	0.0008	B
	Area A, East Perimeter	1417681	2-E	<0.11	0.0008	B
	Area A, Upwind	1417680	2-N	<0.19	0.0013	B
	Area A, West Perimeter	1417678	2-W	<0.15	0.001	B
	Area A, Workzone	1417677	2-WZ	0.47	0.0008	B
8/26/00	Area A, Downwind	1417682	2-W	0.2	0.0007	B
	Area A, North Perimeter	1417684	2-N	<0.1	0.0007	B
	Area A, South Perimeter	1417685	2-S	0.16	0.0009	B
	Area A, Upwind	1417683	2-E	0.2	0.0012	B
8/29/00	Area A, East Perimeter	1418300	2-E	0.103	0.00066	B
	Area A, North Perimeter	1418302	2-N	0.118	0.00055	B
	Area A, South Perimeter	1418304	2-S	0.54	0.0009	B
	Area A, West Perimeter	1418301	2-W	0.166	0.00064	B
	Area A, Workzone	1418303	2-WZ	<0.15	0.001	B
8/30/00	Area A, East Perimeter	1418306	2-E	<0.089	0.00062	B
	Area A, North Perimeter	1418307	2-N	0.087	0.00061	B
	Area A, South Perimeter	1418309	2-S	<0.11	0.0007	B
	Area A, West Perimeter	1418305	2-W	<0.09	0.00063	B
	Area A, Workzone	1418308	2-WZ	0.5	0.0011	B
9/6/00	Area A, East Perimeter	1419175	2-E	0.3	0.0012	B
	Area A, North Perimeter	1419174	2-N	0.189	0.00072	B
	Area A, South Perimeter	1419176	2-S	<0.12	0.0009	B
	Area A, West Perimeter	1419177	2-W	<0.095	0.00076	B
9/7/00	Area A, East Perimeter	1419181	2-E	0.182	0.00077	B
	Area A, North Perimeter	1419178	2-N	<0.096	0.00067	B
	Area A, South Perimeter	1419179	2-S	<0.092	0.00073	B
	Area A, West Perimeter	1419180	2-W	0.101	0.00064	B
9/14/00	Area A, East Perimeter	1420187	2-E	<0.156	0.00094	B
	Area A, North Perimeter	1420185	2-N	0.327	0.00056	B
	Area A, South Perimeter	1420188	2-S	<0.0874	0.00061	B
	Area A, West Perimeter	1420186	2-W	<0.112	0.00079	B

General Notes:

1. NIOSH = National Institute for Occupational Safety and Health.
2. NR = Unable to report result, filter and backpad reversed in cassette.
3. mg/m³ = milligrams per cubic meter.

Qualifying Note:

B = The reported result is attributed to laboratory contamination due to the presence of the chemical in the associated blank.

Table 3.

Summary of Individual VOCs detected in Work Zone Samples

Olin Chemical Property

51 Eames Street

Wilmington, Massachusetts

VOC Parameter	Work Zone Samples		Applicable Standards	
	Minimum Detected, TWA (ppm)	Maximum Detected, TWA (ppm)	NIOSH REL TWA (ppm)	OSHA PEL TWA (ppm)
1,1,2,2-Tetrachloroethane	0.0014	0.0019	1	5
1,1,2-Trichloroethane	0.0009	0.0074	10	10
1,2,4-Trichlorobenzene	0.0013	0.0038	5	NS
1,2,4-Trimethylbenzene	0.0013	0.0024	25	NS
1,2-Dichlorobenzene	0.001	0.001	50	50
1,3,5-Trimethylbenzene	0.0023	0.0033	25	NS
1,3-Butadiene	0.0024	0.0024	NS	1
1,4-Dichlorobenzene	0.0014	0.0014	NS	75
Benzene	0.0012	0.0138	0.1	1
Benzyl chloride	0.001	0.0115	1 (ST, 15-minute)	1
Chlorobenzene	0.0017	0.0017	NS	75
Chloroethane	0.001	0.001	NS	1000
Chloroform	0.002	0.0037	2 (ST, 60-minute)	50
Chloromethane	0.0101	0.0101	NS	100
cis-1,3-dichloropropene	0.0027	0.0027	1	NS
Ethyl benzene	0.001	0.0051	100	100
Hexachlorobutadiene	0.0016	0.0035	0.02	NS
m,p-Xylene	0.0013	0.0069	NS	NS
Methyl t-butyl ether (MTBE)	0.0021	0.0073	NS	40
Methylene Chloride	0.0012	0.0424	NS	25
o-Xylene	0.0012	0.0026	100	100
Styrene	0.0022	0.007	50	100
Tetrachloroethene	0.0014	0.0208	NS	100
Toluene	0.001	0.1906	100	200
trans-1,3-dichloropropene	0.0012	0.0052	1	NS
Trichloroethene	0.0015	0.0077	NS	100
Trichlorofluoromethane (11)	0.001	0.0034	1000	1000

General Notes:

1. VOC = Volatile Organic Compound
2. TWA = Time Weighted Average
3. NIOSH = National Institute of Occupational Safety and Health
4. REL = Recommended Exposure Limit
5. OSHA = Occupational Safety and Health Administration
6. PEL = Permissible Exposure Limit
7. NS = No standard
8. ST = Short-term exposure
9. VOCs by method TO-15 (does not include tentatively identified compounds [TICs]).

Table 4.
Summary of Total VOC Results
Olin Chemical Property
51 Eames Street
Wilmington, Massachusetts

Date	Intrusive Construction Activity	Wind Direction	Total VOC Concentration (ppbv) ⁴				
			Work Zone ²		Perimeter Upwind ³	Perimeter Downwind ³	Perimeter Average ³
			(min)	(max)			
8/2/00	None (Pre-excavation)	SE, W	3.6	7.5			7
8/7/00	Drum Area B excavation	SW, W, NW	2.1	10.7			1.5
8/8/00	Drum Area B excavation	NW	25.6	25.6	1	NS	1
8/9/00	Drum Area B excavation	S, SW	3.1	14.3			NS
8/15/00	Drum Area A excavation, drum removal	N, NE, N	22	52.4	17.8	30.2	24
8/17/00	Drum Area A excavation, drum removal	W	14.8	34.6			84.5
8/25/00	Drum Area A excavation, drum removal	NW, SE	24.7	65.8			14.8
8/26/00	Drum Area A excavation, drum removal	S, E	171.5	259.5			79.3
8/28/00	Drum Area A excavation, drum removal	E ¹	80.7	84			125.95
8/29/00	Drum Area A excavation, drum removal	SE	11	11			NS
8/30/00	Drum Area A excavation, drum removal	S	19.7	38.8	14	54	34
9/7/00	Drum Area A excavation, drum removal	S	2.2	19.6	4.7	8.2	6.45
9/8/00	Drum Area A excavation, drum removal	SW ¹	1.9	12.9			9.1
9/11/00	Drum Area A excavation, drum removal	SE	1.7	7.3	4.2	17	10.6
9/13/00	Drum Area A excavation (Area B backfill complete)	SW, W	2	2			6.25
9/18/00	Buried Debris Area excavation	NW, SW	6.2	23.4			4.5

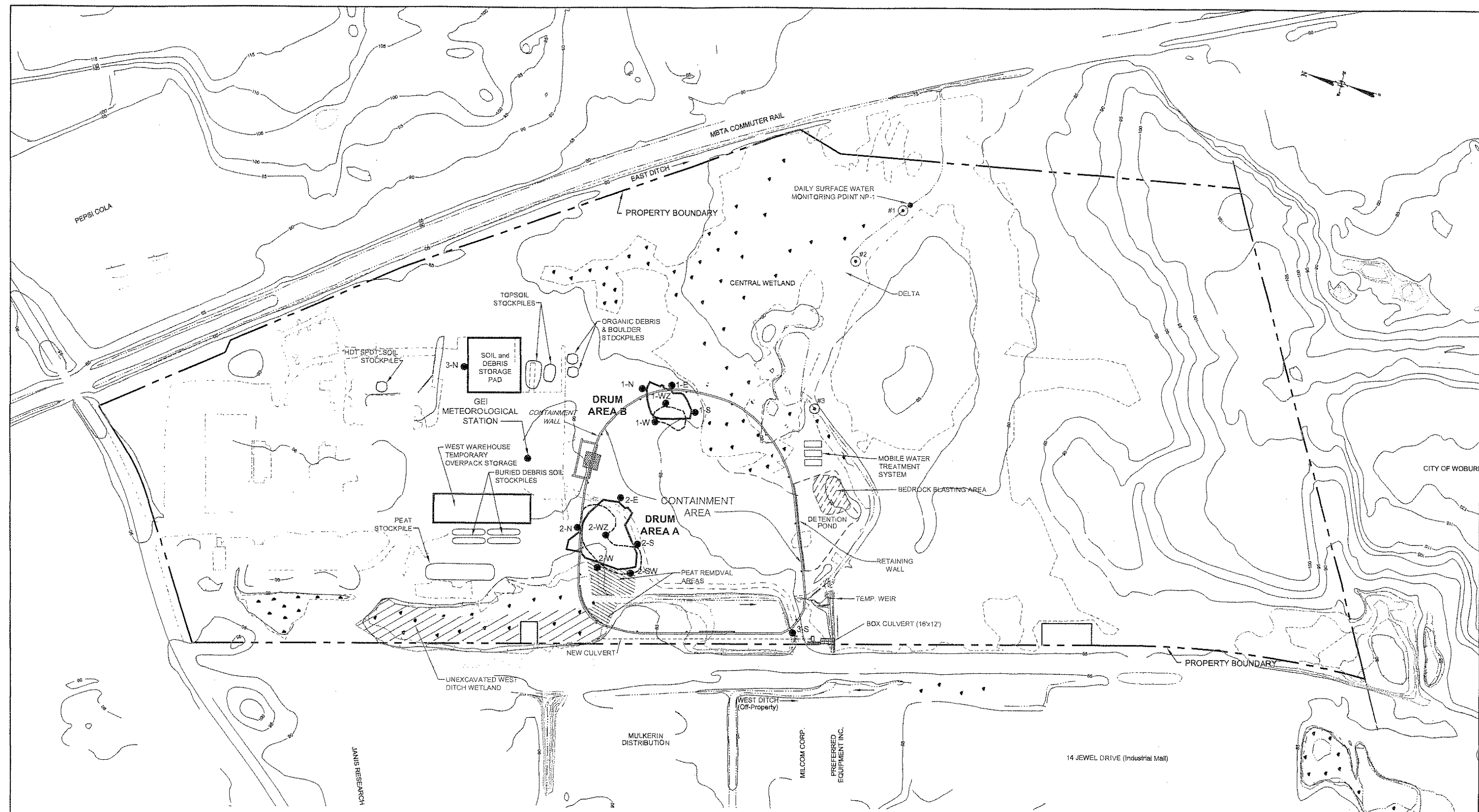
General Notes:

1. VOC = Volatile Organic Compound.
2. Wind direction corresponds to compass quadrants (e.g., SE = southeast).
3. ppbv = parts per billion by volume.
4. NS = No sample collected.

Footnotes:

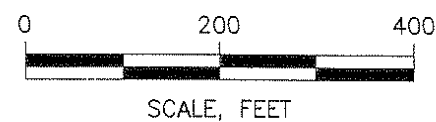
1. Wind directions for 8/28/00 and 9/8/00 are based on data obtained from Bedford Hanscom Field, Bedford, Massachusetts.
2. Work Zone sample results consist of several samples collected within the Work Zone and along the excavation perimeter.
3. Perimeter samples were not identified as upwind or downwind on days where wind direction deviated by more than 45 degrees from north or south. The two perimeter sample locations are identified on Figure 1 as "3-N" and "3-S".
4. Total VOCs by method TO-15 (does not include tentatively identified compounds [TICs]).

FIGURES



LEGEND:

- EXISTING CONTOURS (FT., NGVD)
- - - - - APPROXIMATE EXISTING WETLANDS BOUNDARY
- STREAM
- - - - - PROPOSED LIMITS OF DRUM AREA EXCAVATION
- ACTUAL LIMITS OF DRUM AREA EXCAVATION
- MOBILE WATER TREATMENT SYSTEM DISCHARGE POINT
- AIR MONITORING LOCATION (APPROXIMATE)



NOTES:

1. BASE PLAN PROVIDED BY DANA F. PERKINS, INC

NO.	DATE	DESCRIPTION	DES	DR	CH	APP
1		AS BUILT			DJM	

DESIGNED BY	
DRAWN BY	PTC/DJM
CHECKED BY	
APPROVED BY	
DATE	12/20/00

Olin Corporation Charleston, Tennessee
GEI Consultants, Inc. WINCHESTER · MASSACHUSETTS

Drum Removal RAM Status Report No. 2 and Completion Statement, 51 Eames Street Wilmington, MA			FIG. NO.
PROPOSED WORK AND WORK COMPLETED THROUGH MAY 2001			1
GEI PROJECT 97598	SHEET NO. 1 of 1	ISSUE 1	

Appendix A

MADEP RAM Status Report Transmittal Form



**RELEASE & UTILITY-RELATED ABATEMENT
MEASURE (RAM & URAM) TRANSMITTAL FORM**

Release Tracking Number

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

3 - 0471

A. SITE LOCATION:

Site Name: Olin Wilmington

Street: 51 Eames Street

Location Aid: _____

City/Town: Wilmington MA

ZIP Code: 01887

☐ Check here if a Tier Classification Submittal has been provided to DEP for this Release Tracking Number.

Related Release Tracking Numbers That This RAM or URAM Addresses: _____

B. THIS FORM IS BEING USED TO:

(check all that apply)

☐ Submit a **RAM Plan** (complete Sections A, B, C, D, E, F, J, K, L and M).

☐ Check here if this RAM Plan is an update or modification of a previously approved written RAM Plan.

Date Submitted: _____

☒ Submit a **RAM Status Report** (complete Sections A, B, C, E, J, K, L and M). Status Report No. 2

☒ Submit a **RAM Completion Statement** (complete Sections A, B, C, D, E, G, J, K, L and M).

☐ Confirm or Provide **URAM Notification** (complete Sections A, B, H, K, L and M).

☐ Submit a **URAM Status Report** (complete Sections A, B, C, E, J, K, L and M).

☐ Submit a **URAM Completion Statement** (complete Sections A, B, C, D, E, I, J, K, L and M).

You must attach all supporting documentation required for each use of form indicated, including copies of any Legal Notices and Notices to Public Officials required by 310 CMR 40.1400.

C. SITE CONDITIONS:

☐ Check here if the source of the Release or Threat of Release is known.

If yes, check all sources that apply:

☐ UST

☐ Pipe/Hose/Line

☐ AST

☒ Drums

☐ Transformer

☐ Boat

☐ Tanker Truck

☐ Vehicle

☐ Other

Specify: _____

Identify Media and Receptors Affected: (check all that apply)

☐ Air

☒ Groundwater

☐ Surface Water

☐ Sediments

☒ Soil

☒ Wetlands

☐ Storm Drain

☐ Paved Surface

☐ Private Well

☐ Public Water Supply

☐ Zone 2

☐ Residence

☐ School

☐ Unknown

☐ Other

Specify: _____

Identify Release and/or Threat of Release Conditions at Site: (check all that apply)

☐ 2 and 72 Hour Reporting Condition(s)

☐ 120 Day Reporting Condition(s)

☒ Other Condition(s)

Describe: IRA Completion Statement for Drum Area submitted to MADEP in June 1996.

RAMs may be conducted concurrently with an IRA only with written DEP approval

URAMs may not be conducted if any 2 or 72 Hour conditions exist at the site.

Identify Oils and Hazardous Materials Released: (check all that apply)

☐ Oils

☐ Chlorinated Solvents

☐ Heavy Metals

☐ Others

Specify: _____

D. DESCRIPTION OF RESPONSE ACTIONS:

(check all that apply)

☐ Assessment and/or Monitoring Only

☐ Deployment of Absorbant or Containment Materials

☐ Excavation of Contaminated Soils

☐ Temporary Covers or Caps

☐ Re-use, Recycling or Treatment

☐ Bioremediation

☐ On Site ☐ Off Site Est. Vol.: _____ cubic yards

☐ Soil Vapor Extraction

Describe: _____

☐ Structure Venting System

☐ Store ☐ On Site ☐ Off Site Est. Vol.: _____ cubic yards

☐ Product or NAPL Recovery

SECTION D IS CONTINUED ON THE NEXT PAGE.



**RELEASE & UTILITY-RELATED ABATEMENT
MEASURE (RAM & URAM) TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number

3 - 0471

D. DESCRIPTION OF RESPONSE ACTIONS (continued):

- ☐ Landfill ☐ Cover ☐ Disposal Est. Vol.: _____ cubic yards ☐ Groundwater Treatment Systems
- ☒ Removal of Drums, Tanks or Containers ☐ Air Sparging
Describe: See attached RAM Status Report No. 2. ☐ Temporary Water Supplies
- ☐ Removal of Other Contaminated Media ☐ Temporary Evacuation or Relocation of Residents
Specify Type and Volume: _____ ☐ Fencing and Sign Posting
- ☐ Other Response Actions Describe: _____
- See 310 CMR 40.0442 for limitations on the scope and type of RAMs.
See 310 CMR 40.0464 for performance standards for URAMs.
- ☐ Check here if this RAM or URAM involves the use of Innovative Technologies. DEP is interested in using this information to aid in creating an Innovative Technologies Clearinghouse.
Describe Technologies: _____

E. TRANSPORT OF REMEDIATION WASTE: (If Remediation Waste has been sent to an off-site facility, answer the following questions)

Name of Facility: Various. See attached RAM Status Report No. 2.

Town and State: _____

Quantity of Remediation Waste Transported to Date: _____

F. RAM PLAN:

- ☐ Check here if this RAM Plan received previous oral approval from DEP as a continuation of a Limited Removal Action (LRA).
Date of Oral Approval: _____
- ☐ If a RAM Compliance Fee is required, check here to certify that the fee has been submitted. You **MUST** attach a photocopy of the payment.
See 310 CMR 40.0444(2) to learn when a fee is not required.
- ☐ Check here if the RAM Plan is proposed for a Transition Site. If this is the case, you may need to attach an LSP Evaluation Opinion prior to undertaking the RAM, if not previously provided. See 310 CMR 40.0600 for further information about Transition Sites.

G. RAM COMPLETION STATEMENT:

- ☐ If a RAM Compliance Fee is required in connection with submission of the RAM Completion Statement, check here to certify that the fee has been submitted. You **MUST** attach a photocopy of the payment. You owe this fee when submitting a RAM Completion Statement if you received oral approval of a RAM that continued an LRA, and have NOT previously submitted a RAM Plan and accompanying fee.
- If any Remediation Waste will be stored, treated, managed, recycled or reused at the site following submission of the RAM Completion Statement, you must submit a Phase IV Remedy Implementation Plan, along with the appropriate transmittal form, as an attachment to the RAM Completion Statement.**

H. URAM NOTIFICATION:

- Identify Location Type: (check all that apply) ☐ Public Right of Way ☐ Utility Easement ☐ Private Property
- Identify Utility Type: (check all that apply) ☐ Sanitary/Combined Sewerage ☐ Water ☐ Drainage ☐ Natural Gas
- ☐ Telephone ☐ Steam Lines ☐ Telecommunications ☐ Electric ☐ Other Specify: _____
- ☐ Check here if you provided DEP with previous oral notification of this URAM. Date of Oral Notice: _____
- ☐ Check here if the property owner was NOT contacted prior to initiation of the URAM. If this is the case, you must attach an explanation of why the owner was not contacted, including the date and time when contact ultimately occurred.
- ☐ Check here if this URAM will occur in connection with the construction of new public utilities. If this is the case, document the nature and extent of encountered contamination, the scope and expense of necessary mitigation and the benefits and limitations of project alternatives.
- With the exception stated below, the person undertaking the URAM must provide the name and license number of an LSP engaged or employed in connection with the URAM:
- LSP Name: _____ LSP License Number: _____

LSP information is not required if the URAM is limited to the excavation and/or handling of not more than 100 cubic yards of soil contaminated by Oil, or not more than 20 cubic yards of soil contaminated either by a Hazardous Material or a mixture of a Hazardous Material and Oil.



**RELEASE & UTILITY-RELATED ABATEMENT
MEASURE (RAM & URAM) TRANSMITTAL FORM**

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number

3 - 0471

I. URAM COMPLETION STATEMENT:

- ☐ Check here if this URAM was limited to the excavation and/or handling of not more than 100 cubic yards of soil contaminated by Oil, or not more than 20 cubic yards of soil contaminated by either a Hazardous Material or a mixture of a Hazardous Material and Oil.

If any Remediation Waste will be stored, treated, managed, recycled or reused at the site following submission of the URAM Completion Statement, you must submit either a Release Abatement Measure (RAM) Plan or a Phase IV Remedy Implementation Plan, along with the appropriate transmittal form, as an attachment to the URAM Completion Statement.

J. LSP OPINION:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and (iii) the provisions of 309 CMR 4.03(5), to the best of my knowledge, information and belief,

> If Section B of this form indicates that a **Release Abatement Measure Plan** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> If Section B of this form indicates that a **Release Abatement Measure Status Report** or a **Utility-Related Abatement Measure Status Report** is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> If Section B of this form indicates that a **Release Abatement Measure Completion Statement** or a **Utility-Related Abatement Measure Completion Statement** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000 and (iii) complies(y) with the identified provisions of all orders, permits, and approvals identified in this submittal;

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

- ☐ Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

LSP Name: M. Margaret Hanley LSP #: 8494 Stamp:

Telephone: 781.721.4022 Ext.: _____

FAX: (optional) 781.721.4073

Signature: M. Margaret Hanley

Date: July 12, 2001



An LSP Opinion is not required for a Utility-Related Abatement Measure Notification.

An LSP Opinion is not required for a URAM Completion Statement if the URAM is limited to the excavation and/or handling of not more than 100 cubic yards of soil contaminated by Oil, or not more than 20 cubic yards of soil contaminated either by Hazardous Material or a mixture of Hazardous Material and Oil.

K. PERSON UNDERTAKING RAM OR URAM:

Name of Organization: Olin Corporation

Name of Contact: Steve Morrow, P.E. Title: Principal Environmental Specialist

Street: 1186 Lower River Road, P.O. Box 248

City/Town: Charleston State: TN ZIP Code: 37310-0248

Telephone: 423.336.4511 Ext.: _____ FAX: _____

- ☐ Check here if there has been a change in person undertaking the RAM or URAM.



RELEASE & UTILITY-RELATED ABATEMENT
MEASURE (RAM & URAM) TRANSMITTAL FORM

Pursuant to 310 CMR 40.0444 - 0446 and 310 CMR 40.0462 - 0465 (Subpart D)

Release Tracking Number

3 - 0471

L. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RAM or URAM: (check one)

- ☒ RP or PRP Specify: ☒ Owner ☐ Operator ☐ Generator ☐ Transporter Other RP or PRP: _____
- ☐ Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
- ☐ Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
- ☐ Any Other Person Undertaking RAM or URAM Specify Relationship: _____

M. CERTIFICATION OF PERSON UNDERTAKING RAM OR URAM:

I, STEVE MORROW, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

By: Steve Morrow Title: PRINCIPAL ENV. SPECIALIST
(signature)

For: _____ Date: July 12, 2001
(print name of person or entity recorded in Section K)

Enter address of person providing certification, if different from address recorded in Section K:

Street: _____

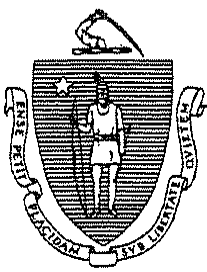
City/Town: _____ State: _____ ZIP Code: _____

Telephone: _____ Ext.: _____ FAX: (optional) _____

YOU MUST COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Appendix B

RAM Approval Letter



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Metropolitan Boston – Northeast Regional Office

MARGARET PAUL CELLUCCI
Governor

JANE SWIFT
Lieutenant Governor

cc: Wilm

SITE TEAM

BOB DURAND
Secretary

LAUREN LISS
Commissioner

FEB 14 2000

Olin Corporation
P.O. Box 248
1186 Lower River Road, NW
Charleston, TN 37310
ATTN: Stephen Morrow

RE: Wilmington
Olin Chemical
51 Eames Street
RTN 3-0471
Conditional Approval:
Excavation of Buried Drums

Dear Mr. Morrow:

On January 24, 2000 the Department of Environmental Protection (DEP) received a Release Abatement Measure (RAM) Plan that proposed a remedial action at the above referenced site. The Release Abatement Measure Plan was prepared on behalf of the Olin Corporation by Law Engineering and Environmental Services, Inc., and reviewed by Margret Hanley of Greenfield International, the Licensed Site Professional for the site. The RAM Plan was submitted to DEP's Bureau of Waste Site Cleanup (BWSC) in accordance with 310 CMR 40.0440 of the Massachusetts Contingency Plan (MCP).

Release Abatement Measures are a class of remedial actions that are voluntarily undertaken at locations where a release of oil and/or hazardous material has occurred (disposal sites). Such response actions are intended to reduce risks at the disposal site, and/or to increase the cost effectiveness of future response actions which may be necessary at the disposal site, and are subject to approval by DEP/BWSC pursuant to Massachusetts General Law, Chapter 21E (MGL c.21E), and 310 CMR 40.0000.

The purpose of this correspondence is to: (a) inform you that the proposed Release Abatement Measure has been conditionally approved pursuant to 310 CMR 40.0443, and (b) specify the conditions under which this Release Abatement Measure is granted approval.

Response Action Approval

The objective of the RAM is to excavate two areas where contaminated soils, drums, and laboratory bottles were previously identified in test pit excavations completed by Conestoga-Rovers & Associates (CRA) in October 1991. The first area was identified in test pits 6, 7, and 8, and is located approximately 150 feet southwest of the warehouses. The second area was identified in test

pit 21, and is located approximately 350 feet southeast of the warehouses. Olin will attempt to excavate buried drums, bottles, and all soils contaminated above Upper Concentration Limits (UCLs), and "eliminate any substantial hazard" associated with these areas of the site. The soil will be characterized for the presence of hazardous materials and if necessary disposed of off site. The contents of drums and laboratory bottles will be characterized for the presence of hazardous materials and disposed of off site. Post excavation samples will be collected to evaluate the effectiveness of the RAM. Samples will be analyzed for volatile organic compounds, semivolatile organic compounds, pesticides, arsenic, cadmium, chromium, lead, ignitability, pH, and reactivity. If dewatering of the excavation is required, groundwater will be stored in a temporary tank on site and treated in the existing Plant B treatment system.

DEP's approval of the activities described above is contingent upon your adherence to the following conditions of approval, and to the provisions of all applicable DEP policies governing response actions. Your initiation of the approved activities will constitute your understanding and acceptance of the conditions of this approval.

I. Site Specific Conditions

- A) DEP reviewed the Phase II Comprehensive Site Investigation completed by CRA, and three areas were identified where test pit investigations revealed contaminated soil, drums, and laboratory wastes. The proposed RAM presently only addresses two of these areas. DEP strongly recommends that the third area, identified in test pits 18, 19, and 20, and located approximately 100 feet southwest of the warehouses, should also be addressed under this RAM.
- B) The CRA Phase II indicates that the chemical compounds with the trade names Opex and Kempore were identified in soil, drums, and laboratory wastes excavated from test pits in the disposal areas. Samples collected as part of the RAM investigation must also be analyzed for these compounds.
- C) If the Plant B groundwater treatment system is used to treat groundwater from dewatering operations, the treatment system must be modified appropriately to ensure remediation of the suite of contaminants present in the buried drum areas. Influent samples from the dewatering operations and effluent samples collected after treatment must be tested for the full suite of potential contaminants identified in the RAM plus Opex and Kempore on a daily basis.
- D) Portions of the study area are located within a mapped wetland. Olin must file a Request for a Determination of Applicability or an Order of Conditions, if required, with the Wilmington Conservation Commission.

II. General Conditions

- A) This response action must be conducted under the direct supervision of a competent professional with specific experience in site remediation/environmental engineering practices, using good engineering procedures and accepted construction practices, and must be managed, supervised, actually performed, or periodically reviewed by a Licensed Site Professional;

- B) This response action must be performed in a manner and to a degree which ensures the protection of human health, safety, public welfare and the environment;
- C) This response action must be conducted in compliance with all applicable public involvement provisions specified in 310 CMR 40.0428;
- D) The subject site shall not be deemed to have had all the necessary and required response actions taken unless and until all substantial hazards presented by the site have been eliminated and a level of No Significant Risk exists or has been achieved in compliance with M.G.L. c. 21E and the MCP. In addition, the MCP requires persons undertaking response actions at disposal sites to perform Immediate Response Actions (IRAs) in response to "sudden releases", Imminent Hazards and Substantial Release Migration. Such persons must continue to evaluate the need for IRAs and notify DEP immediately if such a need exists;
- E) Pursuant to 310 CMR 40.1020, the feasibility of reducing the concentrations of oil and/or hazardous material in the environment to background conditions, or to levels which approach background conditions, must be evaluated before a Class A Response Action Outcome can be achieved at this site.

III. Required Submittals

Pursuant to the provisions of 310 CMR 40.0440, within 120 days of the date of the RAM Plan, one of the following reports must be received by DEP:

- A) A Release Abatement Measure Completion Statement (DEP Form BWSC-106) and a completion report, as specified in 310 CMR 40.0446, in cases where the proposed response actions have been completed; or
- B) A Release Abatement Measure Status Report, as specified in 310 CMR 40.0445, (accompanied by DEP Form BWSC-106), if the proposed response actions are ongoing; or
- C) A Response Action Outcome Statement (DEP Form BWSC-104), as specified in 310 CMR 40.1000, in cases where the proposed response actions have eliminated significant risk at the site such that no further response actions are necessary.

Reports concerning Release Abatement Measures should be addressed to the attention of Christopher Pyott at DEP, Bureau of Waste Site Cleanup, Site Management Section, 205a Lowell Street, Wilmington, MA 01887.

Limitations

This letter constitutes conditional authorization from DEP/BWSC to proceed with the response action you have proposed to conduct. Such authorization is required by M.G.L. Chapter 21E, the Massachusetts Contingency Plan (MCP), and other applicable DEP/BWSC policies. However, you should be aware of the following limitations and additional considerations:

- 1) In reviewing the Release Abatement Measure Plan, our primary intent was to ascertain whether the proposal, as presented, appeared to be protective of public health and environmental interests, and consistent with pertinent DEP regulations, policies, and accepted engineering practices. Our approval in this matter does not necessarily mean that we have determined that the proposed response action is optimal, sufficient, or cost-effective. It is incumbent upon the environmental professional directing response operations to fully explain, document, and defend design and operational decisions. All such activities can be audited by DEP in conformance with the provisions of 310 CMR 40.1100;
- 2) This approval is granted by DEP/BWSC under the provisions of M.G.L. Chapter 21E, the MCP, and other applicable DEP/BWSC policies. It is the responsibility of parties conducting response actions to obtain any other necessary federal, state, or local permits or approvals; and
- 3) DEP's decision in this matter was based upon the information contained in the referenced proposal, and any other accompanying/previous submittals, and would be subject to review if these sources contained any material omissions or misstatements.

Your cooperation in this matter is appreciated. If you have any further questions regarding this matter, please contact Christopher Pyott at (978) 661-7739 or at the letterhead address. All future correspondence regarding this location must reference the DEP Release Tracking Number listed in the subject heading.

Very truly yours,



Christopher Pyott
Environmental Analyst



Stephen Johnson
Section Chief
Site Management

cc: Wilmington BOH
Wilmington Water Department
Data entry/file
DEP/NERO/Water Supply, Attn: Jim Persky
Greenfield International, 131 Mount Auburn Street, Cambridge, MA 02138
Attn: Margret Hanley
Law Engineering and Environmental Services, Inc., 112 Town Park Drive, Kennesaw, GA
Attn: Keith Hansen
Geometa, 2995 Baseline Road, Suite 202, Boulder, CO 80303, Attn: Andy Davis

Appendix C

Permits

ORDER OF CONDITIONS

344-712

for DEP use only

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, Section 40

A Applicant Information

From: Wilmington

Wilmington

Conservation Commission

DEP File #344-712

Project DEP File Number

To:

Olin Environmental Management

Applicant Name

P.O. Box 248, 1186 Lower River Road

Mailing Address

Charleston, TN 37310

State

Zip Code

The project site is located at:

Earnes Street

Map 37

Parcels 10

Assessor Map/Plat#

Parcel/Lot #

and the property is recorded at the Registry of Deeds for:

Middlesex - North

LC240 0003

County

Book

Page

Certificate (if registered land)

RECEIVED

The Notice of Intent for this project was filed on:

January 21, 2000

Date

OLIN ENVIRONMENTAL
REMEDICATION GROUP

The public hearing was closed on:

February 2, 2000

Date

Title and Date of final Plans and Other Documents

see attached

TO: JEFF HARGREAVES

B Findings

Findings pursuant to the Massachusetts Wetlands Protection Act.

Following the review of the above-referenced Notice of Intent and based on the information provided in this presented at the public hearing, this commission finds that the area in which work is proposed is significant to the area in which work is proposed is significant to the following interests of the Wetlands Protection Act (check all that apply):

☒ Public Water Supply

☒ Private Water Supply

☒ Storm Damage Prevention

☒ Protection of Wildlife Habitat

☐ Land Containing Shellfish

☒ Storm Damage Prevention

Bureau of Resource Protection - Wetlands

☒ Fisheries

☒ Prevention of Pollution

☒ Groundwater Supply

☒ Flood Control

Furthermore, the Commission hereby finds that the project, as proposed, is:
(check one of the following boxes)

Approved subject to:

☒ The following conditions which are necessary, in accordance with the performance standards set forth in the wetlands regulations, to protect those interest checked above. This Commission orders that all the work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and all other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, Section 40

B Findings (Cont.)

Denied because:

☐ The proposed work cannot be conditioned to meet the performance standards set forth in the wetlands regulations to protect those interests checked above. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect these interests, and a final Order of Conditions is issued.

☐ The information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(b)(c).

General Conditions

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.

2. This Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.

3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.

4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:

- a) the work is a maintenance dredging project as provided for in the Act; or
- b) the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set for as a special condition in this Order.

5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.

6. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or

debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe tires, ashes, refrigerators, motor vehicles, or parts or any of the foregoing.

7. This Order does not become final until all administrative Appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.

8. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of the work.

9. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words: "Massachusetts Department of Environmental Protection" (or, "MA DEP") "File Number _____" "DEP File #344-742" "Project File Number _____"

10. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before the Department.

11. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.

12. The work shall conform to the following attached plans and special conditions:

Final Approved Plans (attach additional plan references as needed):

Sec attached

Title _____

Dated _____

Signed and Stamped by _____

On file with _____

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, Section 40

B Findings (Con't)

13. Any changes to the plans identified in Condition #12 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.

14. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to the Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

15. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.

16. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall serve as the limit of Work (unless another limit of work line has been noted in the plans of record) and be maintained until a Certificate of Compliance has been issued by the Conservation Commission.

17. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove

Special Conditions (Use additional paper if necessary)

See attached

Findings as to municipal law, bylaw, or ordinance

Furthermore, the

Wilmington
Conservation Commission

hereby finds (check on that applies):

☐ That the proposed work cannot be conditioned to meet the standards set forth in a municipal law, ordinance, or bylaw. Specifically

Name and citation of municipal law, bylaw or ordinance

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

☐ That the following additional conditions are necessary to comply with a municipal law, bylaw, or ordinance, specifically.

Name and citation of municipal law, bylaw, or ordinance

The Commission orders that all the work shall be performed in accordance with the said additional conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

Additional conditions relating to municipal law, bylaw, or ordinance:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, Section 40

B Findings (cont.)

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

2/17/2000
Date

This Order must be signed by a majority of the Conservation Commission. The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate regional office of the Department of Environmental Protection.

Signatures:

[Signature]
[Signature]
[Signature]
[Signature]

[Signature]
[Signature]

On this 16th day of February, 2000 before me personally appeared all of the above members, to me known to be the person described in, and who executed, the foregoing instrument, and acknowledged that he/she executed the same as his/her free act and deed.

Linda Waterman Reed
Notary Public

February 21, 2003
My commission expires

This Order is issued to the applicant as follows:

by hand delivery on: _____
by certified mail, return receipt requested, on: 2/17/2000

C Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate Department of Environmental Protection Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department with the appropriate filing fee and a completed Appendix E; Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order.

A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not appellant. The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, section 40) and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal by law, and not on the Massachusetts Wetlands Protection Act or regulations, the Department of Environmental Protection has no appellate jurisdiction.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 - Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, Section 40

D Recording Information

This Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information shall be submitted to the

Wilmington Conservation Commission

Conservation Commission

on the form below, which must be stamped by the Registry of Deeds.

TO: Wilmington Conservation Commission
Conservation Commission

Please be advised that the Order of Conditions for the project at Olin Corporation, Eames Street Map 37 Parcel 10 DEP File # 344-712 has been recorded at the Registry of Deeds of _____ and has been noted in the chain of title of the affected property in Book _____ Page _____ in accordance with the Order of Conditions issued on _____ (date).

If recorded land, the instrument number that identifies this transaction is: _____

If registered land, the document number that identifies this transaction is: _____

Signature of Applicant: _____

ORDER OF CONDITIONS

#344-712

51 Eames Street
map 37 parcel 10
Olin Corporation (applicant)

SPECIAL CONDITIONS:

(Please review the General Conditions on previous page.)

18. The work shall conform to the following plans and documents, unless otherwise specified in this Order:
 - a) Notice of Intent filed by Wetlands Preservation Inc.
 - b) Plan entitled "Release Abatement Measure Plan (Drum Removal)" dated 1/20/00, signed and stamped by Gregory R. Corcoran, PLS.
 - c) "*Release Abatement Measure Plan*" (document) dated 1/18/00, prepared by Law Engineering and Environmental Services, Inc.
19. According to the submitted plan, the proposed work is within the one hundred foot buffer zone of bordering vegetated wetland. However, it is possible that contaminated soils will need to be removed within bordering vegetated wetland. No work within bordering vegetated wetland shall occur without notification of the Planning & Conservation department. A wetland scientist shall be present daily while work within bordering vegetated wetland occurs.
20. Prior to the start of any work, and in compliance with condition number 9, a sign shall be displayed showing D.E.P. File No. 344-712. This sign shall not be posted on a live tree.
21. This document and the approved plans shall be included in all construction contracts and subcontracts for the proposed work and shall supersede any conflicting contract requirements. It shall also be kept on file at the job site at all times during construction. Thereafter, the contractor shall be held jointly liable for any violation of this Order.
22. Prior to any work on site the Applicant or his agents shall meet with an agent of the Commission on the site to review the proposed work and measures designed to mitigate any impact on wetlands and to ensure that all of the Conditions of this Order are understood. The applicant's wetland consultant shall be present at this meeting.
23. Wetland boundary markers (flags) shall be maintained until all construction activity is completed.
24. Prior to any activity on the site, a siltation fence shall be placed between all excavation areas

Order of Conditions #344-712

Olin Corporation

Special Conditions Page 2

and wetlands. This erosion control shall act as a limit of work. The erosion control barrier will be properly installed (trenched and toed-in) and placed according to the approved plan and shall be inspected and approved by the WCC prior to the start of construction. This barrier shall remain intact until all disturbed areas have been permanently stabilized to prevent erosion.

25. The Applicant shall notify the Conservation Commission immediately and move swiftly to control any erosion problems that occur on site. Any other erosion and sediment controls found to be necessary by the Commission or its Agent during construction shall be implemented by the Applicant.
26. There shall be no stockpiling of any soil or other materials within twenty-five (25) feet of any resource areas without the express written permission of the Conservation Commission.
27. Any dewatering activities on the project must be approved by the Commission's agent prior to implementation. There shall be no direct discharge of water to wetlands or catch basins.
28. Equipment fuel storage and refueling operations shall be situated in an upland area at a horizontal distance greater than 100 feet from wetland resource areas.
29. All disturbed areas, slopes and proposed landscape areas shall be loamed and seeded or erosion controlled in accordance with NRCS (Natural Resources Conservation Service) specifications on file with the WCC. All disturbed areas shall be permanently stabilized by vegetation or as otherwise shown on the above-referenced plans, within 60 days of final grading for this project.
30. If any unforeseen problem occurs during construction which affects any of the eight statutory interests of the Wetlands Protection Act, upon discovery, the Applicant shall notify the Commission immediately and a meeting shall be held between the Commission (or its Agent), the Applicant and other concerned parties to determine the correct measures to be employed. The Applicant shall then act to correct the problems using the corrective measures agreed upon.
31. With respect to all conditions the Wilmington Conservation Commission designates the Assistant Director of Planning & Conservation as its administrative agent with full powers to act on its behalf in administering and enforcing this Order.
32. The members and agents of the Conservation Commission shall have the right to enter the site to verify compliance with the Order, to perform their duties under M.G.L. Chapter 131, s.40, as amended, and to require the submittal of any additional data deemed necessary by the Commission for that verification, prior to issuance of a Certificate of Compliance.
33. Upon completion of this project the Applicant shall submit the following to the Conservation Commission to receive a Certificate of Compliance per DEP Condition #11: (1) a letter from the Applicant requesting a Certificate of Compliance for DEP File # 344-712, (2) a written statement from a registered professional civil engineer of the Commonwealth certifying that

the work has been completed in compliance with this Order of Conditions and the approved plans referenced herein (or approved revisions). Any discrepancies shall be noted, (3) an as-built topographic plan signed and stamped by a registered professional land surveyor of the Commonwealth, for the public record. (4) a letter from a qualified wetland scientist certifying compliance with state regulations and this Order of Conditions regarding wetland restoration.

34. All re-vegetation (of buffer zone and bordering vegetated wetland) shall be performed according to the Notice of Intent, unless otherwise specified in this Order. The Commission reserves the right to require additional plantings to ensure good cover density with indigenous species.
35. All disturbed areas located within wetland resource areas which are to be only temporarily disturbed during project shall be restored to their original grade and vegetative cover. The area must be 75% re-vegetated with species similar to those disturbed within two growing seasons. A qualified wetland/wildlife biologist shall monitor and supervise the wetland restoration over two growing seasons and shall provide detailed written reports describing the progress and functionality of the restoration area to the Commission after each growing season following initial construction of these areas

TO: Wilmington Conservation Commission
Conservation Commission

Please be advised that the Order of Conditions for the project at Olin Corporation, Eames Street Map 37 Parcel 10 DEP File # 344-712 has been recorded at the Registry of Deeds of Middlesex North and has been noted in the chain of title of the affected property in Book #172 Page 215 in accordance with the Order of Conditions issued on 2/17/2000 (date).

If recorded land, the instrument number that identifies this transaction is: _____

If registered land, the document number that identifies this transaction is: 188390

Signature of Applicant: _____

Donald W. Cameron/Olin Corporation

NOTED ON: DEPT 2003900 BK 172 PG 215

NOTED ON:

DEPT

2/23/2000 AT 10:05:56 30.00

NO. MIDDLESEX LAND COURT
REGISTRY DISTRICT
RECEIVED FOR REGISTRATION

DOCUMENT 188390

*Stamped receipt mailed
John Kirby on 2/1/2000*

NPDES PERMIT EXCLUSION



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

RECEIVED
AUG 25 2000
GEI CONSULTANTS, INC

25 August 2000

Steve Morrow
Olin Corporation
1186 Lower River Road
Charleston, TN 37310

Re: NPDES Permit Exclusion for construction dewatering in Wilmington, MA
NPDES Permit Exclusion Reference #00-177

Dear Mr. Bruett:

Based on the information provided by Margaret Hanley of GEI Consultants, Inc., you are granted, pursuant to Title 40 of the Code of Federal Regulations, Part 122.3(d), an exclusion from the requirement for a permit under the National Pollutant Discharge Elimination System (NPDES) in order that groundwater recovery and treatment operations may be performed in a timely fashion. Because the purpose of this exclusion from the regulations is for dewatering operations, the exclusion will be in effect for two months from system start-up.

Subject to other controls which may be established by the State of Massachusetts and the Town of Wilmington, you are authorized to discharge up to 250 gallons of water per minute through fractionization tanks, filtration units, and a liquid phase granular activated carbon units (all in series) prior to discharge to Aberjona River. The discharge must be done in accordance with the following provisions:

1. No discharge of oil, sufficient to cause a sheen (as defined in 40 CFR 110), occurs to the drainage system. The discharge of a sheen of oil, or gasoline, constitutes an oil spill and must immediately be reported to the National Response Center (NRC) at (800) 424-8802.
2. Security provisions are maintained to assure that system failure, vandalism, or other incident will be addressed in a timely fashion, preventing the loss of oil or contaminated water to the storm water drainage system.
3. Sampling and analysis, in accordance with EPA Methods, must be performed for the following chemicals with the listed limits being applicable:

Benzene	5 ppb
Toluene	*
Ethyl Benzene	*
Xylenes	*
The total for Benzene, Toluene,	-----

Ethyl Benzene, and Xylenes (BTEX)	100 ppb
Total Petroleum Hydrocarbons	5 ppm
Methyl Tert-Butyl Ether	70 ppb
Acenaphthene	100 ppb
Dibenzo(a,h)anthracene	0.3 ppb
Fluoranthene	100 ppb
Fluorene	100 ppb
Naphthalene	100 ppb
Phenanthrene	100 ppb
Pyrene	100 ppb
2-Methylnaphthalene	100 ppb
Anthracene	100 ppb
Chrysene	0.2 ppb
Benzo(b)fluoranthene	0.2 ppb
Benzo(k)fluoranthene	0.2 ppb
Benzo(a)pyrene	0.2 ppb
Indeno(1,2,3-cd)pyrene	0.4 ppb
Arsenic	50 ppb
Barium	2000 ppb
Chromium	100 ppb
Lead	15 ppb
Copper	1300 ppb
Nickel	100 ppb

The above standards are based upon submitted contaminant information. Should future sampling indicate the presence of additional chemicals, those new chemical levels should not exceed the federal Drinking Water Standards or 100 ppb, whichever is lower, in the effluent.

Solids - These waters shall be free from floating, suspended, and settleable solids in concentrations or combinations that would impair any use assigned to this class, that would cause esthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom.

Color and Turbidity - These waters shall be free from color and turbidity in concentrations or combinations that are esthetically objectionable conditions or that would impair the use assigned to this class.

Laboratory samples must be obtained from the influent to treatment and from the effluent to the drainage system once each day for the first, third and sixth day of discharge. These samples must be analyzed with a 72-hour turnaround time. If the system is working properly, sampling for the remainder of the month shall be weekly, and then monthly

thereafter. The turnaround time for these samples shall ensure that no more than seven days pass between the sampling event and when the results are received and reviewed by GEI Consultants, Inc.

If analysis indicates that the effluent limits have been exceeded, the system must be shut down immediately and the problem corrected. Upon restarting the system, a sample must be taken and there must be 24 hour turnaround for the results. If the analysis indicates that the problem has been corrected, then the sampling schedule shall resume. If not, then the system shall be shut down again and fixed.

Analytical Reports, with quality control information, are to be reported to the DEP Project Manager, and to the undersigned NPDES permit exclusion writer of this office, by the 28th of the following month, using the NPDES exclusion reference number assigned above.

4. You provide 24 hours notice of the anticipated start-up of discharge, if start-up begins after 31 August 2000.
5. You maintain copies of all analytical reports, and quality control information for a period of 3 years from the date of the report.

This exclusion may also be adjusted verbally if operational conditions require (ie; equipment failure or weather).

If any questions should arise, please do not hesitate to contact me at (617) 918-1257.

Sincerely,



Desiree A. Moyer
On-Scene Coordinator
Emergency Response Section

cc: S. Sarker
B. Kubit
Data Base Unit
M. Hanley

EPA-Permits
MA DEP-OWM
MA DEP-DSHW- Northeast Region
GEI Consultants, Inc.

Appendix D

Results of Disposal Testing

Table D1.

Disposal Characterization for Drum Area A Soil

Olin Chemical Property

51 Eames Street, Wilmington, MA

Parameter	Method	Units	RCS-1	Soil UCLs	MA Unlined Landfill Reuse Criteria	Rochester Approval Criteria	1140-DA-SP16A 10/27/00
Volatile Organics (VOCs)	8260B	mg/kg					
2,4,4-Trimethyl-1-pentene			100				
2,4,4-Trimethyl-2-pentene			100				
Ethylbenzene			80	10,000			
m+p- Xylene			500				
p-Isopropyltoluene							
Total VOCs					<4		
Semivolatile Organics (SVOCs)	8270C	mg/kg					
bis(2-Ethylhexyl)phthalate			100	10,000			
Di-n-butyl phthalate			50				
N-Nitrosodiphenylamine			100				
Total SVOCs					<100		
Total PCBs	8082	mg/kg	2	100	<2	<50	
Total Pesticides	8081A	mg/kg					
Total Metals	6010B	mg/kg					
Arsenic			30	300	<40		
Barium			1,000	10,000			
Cadmium			30	800	<30		
Chromium			1,000	10,000	<1,000		
Lead			300	6,000	<1,000		
Mercury	7471A		20	600	<10		
Selenium			400	10,000			
Silver			100	2,000			
Total Petroleum Hydrocarbons	DRO 8015	mg/kg	200	10,000	<2,500		
TCLP VOCs	1311/8260B	ug/L					ND
TCLP SVOCs	1311/8270C	ug/L					ND
TCLP Herbicides	1311/8151A	ug/L					ND
TCLP Pesticides	1311/8081A	ug/L					ND
TCLP Metals	1311/6010B	ug/L					
TCLP Arsenic					<5,000	<5,000	<50
TCLP Barium					<100,000	<100,000	400
TCLP Cadmium					<1,000	<1,000	240
TCLP Chromium					<5,000	<5,000	<50
TCLP Copper							<100
TCLP Lead					<5,000	<5,000	<50
TCLP Mercury					<200	<200	<0.8
TCLP Nickel							<100
TCLP Selenium					<1,000	<1,000	<50
TCLP Silver					<5,000	<5,000	<50
TCLP Zinc							1,200
Characteristics							
Reactivity - Hydrogen Cyanide	SW846 HCN	mg/kg			not reactive	not reactive	<50
Reactivity - Hydrogen Sulfide	SW846 H ₂ S	mg/kg			not reactive	not reactive	<100
Flashpoint	SW846 1010	degrees F			<140° F	<140° F	>200
Corrosivity	9040	pH			>2 or <12.5	>2 or <12.5	6.15
Specific Conductivity	SM18 2510B	umhos/cm			<4,000		
Solids, percent	EPA 160.3	%					

General Notes:

- Only numerical results for analytes detected in at least one sample are reported here. For a complete list of analytes and laboratory reporting limits see the labora
- MCP = 310 CMR 40.0000 Massachusetts Contingency Plan, dated October 31, 1997 with revisions effective May 15, 1998.
- Reportable Concentrations (e.g. RCS-1), and Upper Concentration Limits (UCLs), where identified, are cited from the MCP.
- MA Unlined Landfill Criteria, where identified, are cited from "Reuse and Disposal of Contaminated Soil at Massachusetts Landfills", DEP, Policy # BWP-94-037.
- Rochester Approval Criteria, where identified, are cited from "Approval Criteria", Turnkey Recycling & Environmental Enterprises, Rochester, NH.
- PCBs = Polychlorinated Biphenyls
- TCLP - Toxicity Characteristic Leaching Procedure
- ND = Not detected above laboratory reporting limit. See the laboratory data sheets for laboratory reporting limit.
- mg/kg = milligrams per kilogram
- ug/L = micrograms per liter
- "<" = Analyte not detected at a concentration above the specified laboratory reporting limit.

DISPOSAL TESTING RESULTS – ROLL-OFFS (SOIL)

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI
Renewal Date:CN6859
/ /

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EXAMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: US 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: SOIL/DEBRIS DRUM AREA A
b. Process Generating Waste: DRUM AND SOIL REMOVAL ACTIVITIES - RCRA NON
HAZARDOUS CHEMICALLY CONTAMINATED SOIL

c. Color <u>BLACK</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range <u>0 to 1 %</u> h. pH: Range <u>6 to 8.5 %</u>
--------------------------	--	---	---	--

- i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable
j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
DEBRIS (DRUM REMNANTS)	0 - 10 %	SEE TCLP ANALYSIS	
SOIL	100 - 90 %	SEE TABLE FROM CSM	
PHTHALATES	0 - 1,100 ppm		
N-NITROSODIPHENYLAMINE	0 - 20,000 ppm		

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

- k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

- l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NO
m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NO
n. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes..... ☐ friable ☐ non-friable
o. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO
If yes, concentration _____ ppm
Is the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NO
p. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NO
If no, does the waste meet the organic LDR Exemption?..... ☐ YES ☒ NO
If no, does the waste contain <500 ppmw volatile organic (VO)?..... ☐ YES ☒ NO
Volatile organic concentration _____ ppmw
q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NO
r. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 60 ☒ Tons ☐ Yards ☐ Drums ☐ Other (specify) _____

3. Shipping Information

- a. Packaging:
☒ Bulk Solid; Type/Size: ROLL-OFF / DUMP TRAILER ☐ Bulk Liquid; Type/Size: _____
☐ Drum; Type; Size: _____ ☐ Other: _____
b. Shipping Frequency: Units 6 TRUCKS Per: ☐ Month ☐ Quarter ☒ Year ☐ One time ☐ Other
c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☐ YES ☒ NO

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPE

d. Reportable Quantity (lbs.;kgs.): _____ e. Hazard Class/ID #: _____
f. USDOT Shipping Name: _____
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.) _____ ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) _____ ☐ YES ☐ NO

2. Is this a state hazardous waste? _____ ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____

3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? MCP 216, TEX 111 ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. SITE

4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? _____ ☐ YES ☒ NO

5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.) _____ ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? _____ ☐ YES ☐ NO

6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? _____ ☒ YES ☐ NO

7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? _____ ☒ YES ☐ NO

☒ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and determined by the approved person.

Certification Signature: Steve Morrow Title: PRINCIPAL ENVIRONMENTAL SPECIALIST
Name (Type or Print): STEVE MORROW Company Name: OLIN CORPORATION Date: 10/03/2000
☐ Check if additional information is attached. Indicate the number of attached pages _____

D. WM Management's Decision

FOR WM USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____

2. Proposed Ultimate Management Facility: _____

3. Precautions, Special Handling Procedures, or Limitation on Approval: _____

4. Waste Form _____ 5. Source _____ 6. System Type _____
☐ Approved ☐ Disapproved

- Special Waste Decision _____
Salesperson's Signature: _____ Date: _____
Division Approval Signature (Optional): _____ Date: _____
Special Waste Approvals Person Signature: _____ Date: _____

Roll-Off TCLP results from Waste Stream

FROM:

FAX:

Sep-19-00 Tue 18:16

PAGE: 02

WASTE STREAM TECHNOLOGY, INC.

302 Grote Street

Buffalo, NY 14207

(716) 876-5290

Analytical Data Report

Report Date : 09/19/00

Group Number : 2002-233

Prepared For :

Mr. Alan Elia, Jr.

Sevenson Environmental Services, Inc.

2749 Lockport Road

Niagara Falls, NY 14302

Site : Olin \ Drum Phase

Analytical Parameters

Full TCLP

PCBs

Ignitability

pH

Reactive Cyanide

Reactive Sulfide

Fingerprint Analysis

Analytical Services

Number of Samples

5

5

5

5

5

5

2

Turnaround Time

5 Business Days

5 Business Days

5 Business Days

5 Business Days

5 Business Days

5 Business Days

5 Business Days

Post-It® Fax Note	7671	Date	9/19	# of Pages	40
To	Shirley	From	WST		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #		Fax #			

Report Released By :

Daniel W. Voller

Daniel Voller, Laboratory QA/QC Officer

ENVIRONMENTAL LABORATORY ACCREDITATION CERTIFICATION NUMBERS

NYSDOH ELAP #11179 NJDEPE #73977

WASTE STREAM
TECHNOLOGY

FROM:

FRX:

Sep-19-00 Tue 10:16

PAGE: 03

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-233

Site: Olin \ Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
W\$70889	Roll Off Box # 333	Soil	09/09/00	09/12/00	10:45
W\$70890	Roll Off Box # 293	Soil	09/09/00	09/12/00	10:45
W\$70891	Roll Off Box # 335	Soil	09/09/00	09/12/00	10:45
W\$70892	Roll Off Box # 334	Soil	09/09/00	09/12/00	10:45
W\$70893	Roll Off Box # 498	Soil	09/09/00	09/12/00	10:45
W\$70894	# 120	Sludge	09/07/00	09/12/00	10:45
W\$70895	# 132	Solid	09/08/00	09/12/00	10:45
W\$70896	# 152	Solid	09/11/00	09/12/00	10:45

FROM:

FAX:

Sep-19-88 Tue 10:16

PAGE: 04

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following: when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

FROM:

FRX:

Sep-19-00 Tue 10:17

PAGE: 05

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Units: mg/Kg
Matrix: Soil

WST ID: WS70889

Client ID: Roll Off Box # 333

Extraction Date: 09/14/00

Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
and/or 1016	0.05	Not detected		U
and/or 1221	0.04	Not detected		U
and/or 1232	0.05	Not detected		U
and/or 1242	0.03	Not detected		U
and/or 1248	0.02	Not detected		U
and/or 1254	0.01	Not detected		U
and/or 1260	0.01	Not detected		U
Decachlorobiphenyl (%)		97	60-150	
Tetrachloro-m-xylene (%)		73	60-150	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:17

PAGE: 06

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 09/12/00

WST ID: WS70889
Client ID: Roll Off Box # 333
Digestion Date: 09/14/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	09/14/00	SW-846 6010
Barium by ICP	0.025	0.110	09/14/00	SW-846 6010
Calcium by ICP	0.025	Not detected	09/14/00	SW-846 6010
Chromium by ICP	0.025	Not detected	09/14/00	SW-846 6010
Copper by ICP	0.045	Not detected	09/14/00	SW-846 6010
Lead by ICP	0.075	Not detected	09/14/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	09/15/00	SW-846 7470
Nickel by ICP	0.025	Not detected	09/14/00	SW-846 6010
Selenium by ICP	0.085	Not detected	09/14/00	SW-846 6010
Silver by ICP	0.025	Not detected	09/14/00	SW-846 6010
Zinc by ICP	0.065	0.197	09/14/00	SW-846 6010

FROM:

FAX:

Sep-19-00 Tue 10:10

PAGE: 07

Waste Stream Technology, Inc.
Herbicides in TCLP Extract
1311/8150

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: mg/L
Matrix: TCLP Extract

WST ID: WS70889
Client ID: Roll Off Box # 333
Extraction Date: 09/13/00
Date Analyzed: 09/14/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,6-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		73	10-127	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:10

PAGE: 09

Waste Stream Technology, Inc.
TCLP Pesticide Analysis
1311/8081

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70889
Client ID: Roll Off Box # 333
Extraction Date: 09/15/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		86	60-150	
Decachlorobiphenyl (%)		97	60-150	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:19

PAGE: 89

Waste Stream Technology, Inc.
8270 TCLP Semivolatile Organics
1311/8270

Site: Oilin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70889
Client ID: Roll Off Box # 333
Extraction Date: 08/15/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	Not detected		U
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		40	21-100	
Phenol-d6 (%)		27	10-94	
Nitrobenzene-d5 (%)		75	35-114	
2-Fluorobiphenyl (%)		74	43-116	
2,4,6-Tribromophenol (%)		88	10-123	
Terphenyl-d14 (%)		72	33-141	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:19

PAGE: 10

Waste Stream Technology, Inc.
TCLP Volatile Organics Analysis
1311/8260B

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70889
Client ID: Roll Off Box # 333
TCLP Date: 09/14/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		109	70-121	
Toluene-d8 (%)		115	81-117	
Bromofluorobenzene (%)		96	74-121	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:19

PAGE: 11

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Oiln \ Drum Phase

Date Sampled: 09/09/00

Date Received: 09/12/00

Group Number: 2002-233

Units: mg/Kg

Matrix: Soil

WST ID: WS70890

Client ID: Roll Off Box # 293

Extraction Date: 09/14/00

Date Analyzed: 09/18/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
arecor 1016	0.200	Not detected		U
arecor 1221	0.160	Not detected		U
arecor 1232	0.240	Not detected		U
arecor 1242	0.120	Not detected		U
arecor 1248	0.080	Not detected		U
arecor 1264	0.040	Not detected		U
arecor 1260	0.040	Not detected		U
Decachlorobiphenyl (%)		63	60-150	
Tetrachloro-m-xylene (%)		54	60-150	#

Dilution Factor 4

FROM:

FOX:

Sep-19-00 Tue 10:20

PAGE: 12

**Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report**

Site: Oiln \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 08/12/00

WST ID: WS70890
Client ID: Roll Off Box # 293
Digestion Date: 09/14/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	09/14/00	SW-846 6010
Barium by ICP	0.025	0.112	09/14/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	09/14/00	SW-846 6010
Chromium by ICP	0.025	Not detected	09/14/00	SW-846 6010
Copper by ICP	0.045	Not detected	09/14/00	SW-846 6010
Lead by ICP	0.075	Not detected	09/14/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	09/14/00	SW-846 7470
Nickel by ICP	0.025	Not detected	09/14/00	SW-846 6010
Selenium by ICP	0.095	Not detected	09/14/00	SW-846 6010
Silver by ICP	0.025	Not detected	09/14/00	SW-846 6010
Zinc by ICP	0.065	0.111	09/14/00	SW-846 6010

FROM:

FRN:

Sep-19-00 Tue 10:20

PAGE: 13

Waste Stream Technology, Inc.
Herbicides in TCLP Extract
1311/8150

Site: Olin \ Drum Phase
 Date Sampled: 09/09/00
 Date Received: 09/12/00
 TCLP Extraction Date: 09/12/00

Group Number: 2002-233
 Units: mg/L
 Matrix: TCLP Extract

WST ID: WS70890
 Client ID: Roll Off Box # 293
 Extraction Date: 09/13/00
 Date Analyzed: 09/14/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		64	10-127	
Dilution Factor	1			

FROM:

FRX:

Sep-19-00 Tue 10:21

PAGE: 14

Waste Stream Technology, Inc.
TCLP Pesticide Analysis
1311/8081

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70890
Client ID: Roll Off Box # 293
Extraction Date: 09/15/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chloridane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetachloro-m-xylene (%)		75	60-150	
Dibachlorobiphenyl (%)		92	60-150	
Dilution Factor	1			

FROM:

FOX:

Sep-19-00 Tue 10:21

PAGE: 13

Waste Stream Technology, Inc.
8270 TCLP Semivolatile Organics
1311/8270

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70890
Client ID: Roll Off Box # 293
Extraction Date: 09/15/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,1-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	Not detected		U
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		40	21-100	
Phenol-d6 (%)		28	10-94	
Nitrobenzene-d5 (%)		74	35-114	
2-Fluorobiphenyl (%)		73	43-116	
2,4,6-Tribromophenol (%)		89	10-123	
Terphenyl-d14 (%)		70	33-141	
Dilution Factor				

FROM:

FAX:

Sep-19-00 Tue 10:22

PAGE: 16

Waste Stream Technology, Inc.
TCLP Volatile Organics Analysis
1311/8260B

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70890
Client ID: Roll Off Box # 293
TCLP Date: 09/14/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethene-d4 (%)		102	70-121	
Toluene-d8 (%)		114	81-117	
Bromofluorobenzene (%)		95	74-121	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:22

PAGE: 17

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin \ Drum Phase

Date Sampled: 09/09/00

Date Received: 09/12/00

Group Number: 2002-233

Units: mg/Kg

Matrix: Soil

WST ID: WS70891

Client ID: Roll Off Box # 335

Extraction Date: 09/14/00

Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
apclor 1016	0.05	Not detected		U
apclor 1221	0.04	Not detected		U
apclor 1232	0.06	Not detected		U
apclor 1242	0.03	Not detected		U
apclor 1248	0.02	Not detected		U
apclor 1254	0.01	Not detected		U
apclor 1260	0.01	Not detected		U
Decachlorobiphenyl (%)		63	60-150	
Tetrachloro-m-xylene (%)		54	60-150	#
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:22

PAGE: 18

Waste Stream Technology, Inc.

TCLP Metals Analysis Result Report

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 09/12/00

WST ID: WS70891
Client ID: Roll Off Box # 335
Digestion Date: 09/14/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	09/14/00	SW-846 6010
Barium by ICP	0.025	0.115	09/14/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	09/14/00	SW-846 6010
Chromium by ICP	0.025	Not detected	09/14/00	SW-846 6010
Copper by ICP	0.045	0.106	09/14/00	SW-846 6010
Lead by ICP	0.075	Not detected	09/14/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	09/14/00	SW-846 7470
Nickel by ICP	0.025	Not detected	09/14/00	SW-846 6010
Selenium by ICP	0.095	Not detected	09/14/00	SW-846 6010
Silver by ICP	0.025	Not detected	09/14/00	SW-846 6010
Zinc by ICP	0.065	0.579	09/14/00	SW-846 6010

FROM:

FAX:

Sep-19-00 Tue 10:23

PAGE: 19

Waste Stream Technology, Inc.
Herbicides in TCLP Extract
1311/8150

Site: Olin \ Drum Phase
Date Sampled: 09/08/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: mg/L
Matrix: TCLP Extract

WST ID: WS70891
Client ID: Roll Off Box # 335
Extraction Date: 09/13/00
Date Analyzed: 09/14/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		62	10-127	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:23

PAGE: 20

Waste Stream Technology, Inc.
TCLP Pesticide Analysis
1311/8081

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: ug/L
Matrix: TCLP Extract

WST ID: WS70891
Client ID: Roll Off Box # 335
Extraction Date: 09/15/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		78	60-150	
Decachlorobiphenyl (%)		96	60-150	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:24

PAGE: 21

Waste Stream Technology, Inc.
8270 TCLP Semivolatile Organics
1311/8270

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70891
Client ID: Roll Off Box # 335
Extraction Date: 09/15/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	Not detected		U
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		41	21-100	
Phenol-d6 (%)		28	10-94	
Nitrobenzene-d5 (%)		74	35-114	
2-Fluorobiphenyl (%)		73	43-116	
2,4,6-Tribromophenol (%)		87	10-123	
Terphenyl-d14 (%)		72	33-141	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:24

PAGE: 22

Waste Stream Technology, Inc.
TCLP Volatile Organics Analysis
1311/8260B

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70891
Client ID: Roll Off Box # 335
TCLP Date: 09/14/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		106	70-121	
Toluene-d8 (%)		114	81-117	
Bromofluorobenzene (%)		94	74-121	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:25

PAGE: 23

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233

Units: mg/Kg

Matrix: Soil

WST ID: WS70892

Client ID: Roll Off Box # 334

Extraction Date: 09/14/00

Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.05	Not detected		U
aroclor 1221	0.04	Not detected		U
aroclor 1232	0.06	Not detected		U
aroclor 1242	0.03	Not detected		U
aroclor 1248	0.02	Not detected		U
aroclor 1254	0.01	Not detected		U
aroclor 1260	0.01	Not detected		U
Decachlorobiphenyl (%)		94	60-150	
Tetrachloro-m-xylene (%)		58	60-150	#
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:25

PAGE: 24

Waste Stream Technology, Inc.

TCLP Metals Analysis Result Report

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 08/12/00

Group Number: 2002-233
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 09/12/00

WST ID: WS70892
Client ID: Roll Off Box # 334
Digestion Date: 09/14/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	09/14/00	SW-846 6010
Barium by ICP	0.025	0.166	09/14/00	SW-846 6010
Calcium by ICP	0.025	0.054	09/14/00	SW-846 6010
Chromium by ICP	0.025	Not detected	09/14/00	SW-846 6010
Copper by ICP	0.045	Not detected	09/14/00	SW-846 6010
Lead by ICP	0.075	Not detected	09/14/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	09/15/00	SW-846 7470
Nickel by ICP	0.025	Not detected	09/14/00	SW-846 6010
Selenium by ICP	0.095	Not detected	09/14/00	SW-846 6010
Silver by ICP	0.025	Not detected	09/14/00	SW-846 6010
Zinc by ICP	0.065	0.560	09/14/00	SW-846 6010

FROM:

FAX:

Sep-19-00 Tue 10:26

PAGE: 25

Waste Stream Technology, Inc.
Herbicides in TCLP Extract
1311/8150

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: mg/L
Matrix: TCLP Extract

WST ID: WS70892
Client ID: Roll Off Box # 334
Extraction Date: 09/13/00
Date Analyzed: 09/14/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,4'-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		82	10-127	
Dilution Factor	1			

FROM:

FRX:

Sep-19-00 Tue 10:26

PAGE: 26

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70892
Client ID: Roll Off Box # 334
Extraction Date: 09/15/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	0.100		
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		88	60-150	
Dichlorobiphenyl (%)		92	60-150	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 18:26

PAGE: 27

Waste Stream Technology, Inc.
8270 TCLP Semivolatile Organics
1311/8270

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70892
Client ID: Roll Off Box # 334
Extraction Date: 09/15/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	2		J
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		39	21-100	
Phenol-d6 (%)		18	10-94	
Nitrobenzene-d5 (%)		73	35-114	
2-Fluorobiphenyl (%)		71	43-116	
2,4,6-Tribromophenol (%)		89	10-123	
Terphenyl-d14 (%)		73	33-141	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:27

PAGE: 28

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin \ Drum Phase

Date Sampled: 09/09/00

Date Received: 09/12/00

Group Number: 2002-233

Units: µg/L

Matrix: TCLP Extract

WST ID: WS70892

Client ID: Roll Off Box # 334

TCLP Date: 09/14/00

Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		100	70-121	
Toluene-d8 (%)		110	81-117	
Bromofluorobenzene (%)		96	74-121	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:27

PAGE: 29

Waste Stream Technology, Inc.**PCBs in Soil****SW-846 8082**

Site: Olin \ Drum Phase

Date Sampled: 08/09/00

Date Received: 09/12/00

Group Number: 2002-233

Units: mg/Kg

Matrix: Soil

WST ID: WS70893

Client ID: Roll Off Box # 498

Extraction Date: 08/14/00

Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
arbor 1016	0.05	Not detected		U
arbor 1221	0.04	Not detected		U
arbor 1232	0.06	Not detected		U
arbor 1242	0.03	Not detected		U
arbor 1248	0.02	Not detected		U
arbor 1254	0.01	Not detected		U
arbor 1260	0.01	Not detected		U
Decachlorobiphenyl (%)		30	60-150	#
Tetrachloro-m-xylene (%)		35	60-150	#
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 18:28

PAGE: 30

Waste Stream Technology, Inc.

TCLP Metals Analysis Result Report

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 09/12/00

WST ID: WS70893
Client ID: Roll Off Box # 498
Digestion Date: 09/14/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	09/14/00	SW-846 6010
Barium by ICP	0.025	0.460	09/14/00	SW-846 6010
Cadmium by ICP	0.025	0.103	09/14/00	SW-846 6010
Chromium by ICP	0.025	0.096	09/14/00	SW-846 6010
Copper by ICP	0.045	Not detected	09/14/00	SW-846 6010
Lead by ICP	0.075	Not detected	09/14/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	09/14/00	SW-846 7470
Nickel by ICP	0.025	0.028	09/14/00	SW-846 6010
Selenium by ICP	0.095	Not detected	09/14/00	SW-846 6010
Silver by ICP	0.025	Not detected	09/14/00	SW-846 6010
Zinc by ICP	0.065	2.52	09/14/00	SW-846 6010

FROM:

FAX:

Sep-19-00 Tue 10:28

PAGE: 31

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: mg/L
Matrix: TCLP Extract

WST ID: WS70893
Client ID: Roll Off Box # 498
Extraction Date: 09/13/00
Date Analyzed: 09/14/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,4'-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		116	10-127	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:29

PAGE: 32

Waste Stream Technology, Inc.
TCLP Pesticide Analysis
1311/8081

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70893
Client ID: Roll Off Box # 498
Extraction Date: 09/15/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
erdin	0.055	Not detected		U
gamma-BHC (Lindane)	0.018	0.180		
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		86	60-150	
Dicachlorobiphenyl (%)		95	60-150	
Dilution Factor	1			

FROM:

FRX:

Sep-19-00 Tue 10:29

PAGE: 33

Waste Stream Technology, Inc.
8270 TCLP Semivolatile Organics
1311/8270

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00
TCLP Extraction Date: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70893
Client ID: Roll Off Box # 488
Extraction Date: 09/15/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	16		J
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		9	21-100	#
Phenol-d6 (%)		3	10-94	#
Nitrobenzene-d5 (%)		86	35-114	
2-Fluorobiphenyl (%)		74	43-116	
2,4,6-Tribromophenol (%)		89	10-123	
Terphenyl-d14 (%)		73	33-141	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:29

PAGE: 34

Waste Stream Technology, Inc.
TCLP Volatile Organics Analysis
1311/8260B

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Units: µg/L
Matrix: TCLP Extract

WST ID: WS70893
Client ID: Roll Off Box # 498
TCLP Date: 09/14/00
Date Analyzed: 09/15/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		113	70-121	
Toluene-d8 (%)		113	81-117	
Bromofluorobenzene (%)		95	74-121	
Dilution Factor	1			

FROM:

FAX:

Sep-19-00 Tue 10:30

PAGE: 35

Waste Stream Technology, Inc.
Section 7.3.4.2 Reactive Sulfide
SW-846 9034

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Matrix: Soil
Units: mg/Kg

VST ID	Client ID	Detection Limit	Result	Date Analyzed
VVS70889	Roll Off Box # 333	40.0	Not detected	09/13/00
VVS70890	Roll Off Box # 283	40.0	Not detected	09/13/00
VVS70891	Roll Off Box # 335	40.0	Not detected	09/13/00
VVS70892	Roll Off Box # 334	40.0	Not detected	09/13/00
VVS70893	Roll Off Box # 498	40.0	112	09/13/00

FROM:

FAX:

Sep-19-00 Tue 10:38

PAGE: 36

Waste Stream Technology, Inc.
Section 7.3.3.2 Reactive Cyanide
SW-846 9014

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Matrix: Soil
Units: mg/Kg

VST ID	Client ID	Detection Limit	Result	Date Analyzed
VVS70889	Roll Off Box # 333	40.0	Not detected	09/13/00
VVS70890	Roll Off Box # 293	40.0	Not detected	09/13/00
VVS70891	Roll Off Box # 335	40.0	Not detected	09/13/00
VVS70892	Roll Off Box # 334	40.0	Not detected	09/13/00
VVS70893	Roll Off Box # 488	40.0	Not detected	09/13/00

FROM:

FAX:

Sep-19-00 Tue 10:31

PAGE: 37

Waste Stream Technology, Inc.**pH in Solid
SW-846 9045C**

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Matrix: Soil
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WVS70889	Roll Off Box # 333	NA	6.04	09/12/00
WVS70890	Roll Off Box # 293	NA	5.65	09/12/00
WVS70891	Roll Off Box # 335	NA	6.23	09/12/00
WVS70892	Roll Off Box # 334	NA	6.76	09/12/00
WVS70893	Roll Off Box # 498	NA	8.09	09/12/00

FROM:

FAX:

Sep-19-00 Tue 10:31

PAGE: 38

Waste Stream Technology, Inc.
Ignitability (flash point)
SW-846 1010

Site: Olin \ Drum Phase
Date Sampled: 09/09/00
Date Received: 09/12/00

Group Number: 2002-233
Matrix: Soil
Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS70889	Roll Off Box # 333	NA	>200	09/13/00
WS70890	Roll Off Box # 293	NA	>200	09/13/00
WS70891	Roll Off Box # 335	NA	>200	09/13/00
WS70892	Roll Off Box # 334	NA	>200	09/13/00
WS70893	Roll Off Box # 498	NA	>200	09/13/00

> 200 = no flash detected at a temperature up to 200 degrees Fahrenheit.

DISPOSAL TESTING RESULTS – OVERPACK DRUMS, HAZARDOUS



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☒ Hazardous ☐ Non-Hazardous ☐ TSCA

Profile Number: WMI
Renewal Date: / /

CK 5110

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EXACT ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403109
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MARROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: WS 71815 COMPOSITE C
b. Process Generating Waste: DRUM EXCAVATION

DRUM # 106, 165, 158, 98, 157, 126

c. Color <u>RED/BROWN</u> <u>BLACK/WHITE</u> <u>RESINS</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>8.43</u> %
---	--	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable
j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTIVE SULFIDE</u>	<u>0-121 PPM</u>	<u>DRUM PARTS/ DEBRIS</u>	<u>0-507.</u>
<u>CREOSOL</u>	<u>0-820 PPM</u>	<u>SOLIDS</u>	<u>50-1007.</u>
<u>CHROMIUM</u>	<u>0-1.57 PPM</u>	<u>SEE ATTACHED TCLP</u>	
<u>FLASH POINT</u>	<u>> 200°F</u>	<u>ANALYSIS 71815</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NO
m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NO
n. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes..... ☐ friable ☐ non-friable
o. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO
If yes, concentration _____ ppm
Is the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NO
p. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NO
If yes, volatile organic concentration _____ ppmw
q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NO
r. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 6 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:
☐ Bulk Solid; Type/Size: 1-110 GALLON ☐ Bulk Liquid; Type/Size: _____
☐ Drum; Type; Size: 5-85 GALLON DRUMS ☐ Other: _____
b. Shipping Frequency: Units 6 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other
c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☒ YES ☐ NO



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.; kgs.): _____ e. Hazard Class/ID #: _____
f. USDDT Shipping Name: HAZARDOUS WASTE, SOLID, A.O.S. (CHROMIUM) 9 NA-307
g. Personal Protective Equipment Requirements: PG III (USEPA D-006)
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☒ YES ☐ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) D 006
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) ☒ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☒ YES ☐ NO
2. Is this a state hazardous waste? ☒ YES ☐ NO
Identify ALL state hazardous waste codes D 006
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 21E SITE # 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WMI to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: [Signature] Title: PRINCIPAL ENVIRONMENTAL SPECIALIST
Name (Type or Print): STEVE MCKROW Company Name: OLIN CORPORATION Date: 11/1/91
☒ Check if additional information is attached. Indicate the number of attached pages 11

D. WMI Management's Decision

FOR WMI USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
Special Waste Decision: ☐ Approved ☐ Disapprove
Salesperson's Signature: _____ Date: _____
Division Approval Signature (Optional): _____ Date: _____
Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Received: 09/27/00

Group Number: 2002-255
Matrix: Solid
Units: pH Units

WST ID	Client ID	Date Sampled	Detection Limit	Result	Date Analyzed
WS71813	A - Composite	09/26/00	NA	8.30	10/02/00
WS71814	B - Composite	09/26/00	NA	6.53	10/02/00
→ WS71815	C - Composite	09/26/00	NA	8.43	10/02/00

Waste Stream Technology, Inc.
Section 7.3.3.2 Reactive Cyanide
SW-846 9014

Site: Olin - Drum Phase
Date Received: 09/27/00

Group Number: 2002-255
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Date Sampled	Detection Limit	Result	Date Analyzed
WS71813	A - Composite	09/26/00	40.0	Not detected	09/29/00
WS71814	B - Composite	09/26/00	40.0	Not detected	09/29/00
→ WS71815	C - Composite	09/26/00	40.0	Not detected	09/29/00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Received: 09/27/00

Group Number: 2002-255

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Date Sampled	Detection Limit	Result	Date Analyzed
WS71813	A - Composite	09/26/00	40.0	40.9	09/29/00
WS71814	B - Composite	09/26/00	40.0	61.3	09/29/00
→ WS71815	C - Composite	09/26/00	40.0	121	09/29/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 09/26/00

Date Received: 09/27/00

Group Number: 2002-255

Units: µg/L

Matrix: TCLP Extract

WST ID: WS71815

Client ID: C - Composite

TCLP Date: 10/04/00

Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		92	70- 121	
Toluene-d8 (%)		87	81- 117	
Bromofluorobenzene (%)		93	74- 121	
Dilution Factor	1			

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00
TCLP Extraction Date: 10/02/00

Group Number: 2002-255

Units: µg/L

Matrix: TCLP Extract

WST ID: WS71815

Client ID: C - Composite

Extraction Date: 10/05/00

Date Analyzed: 10/06/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	100	Not detected		U
1,4-dichlorobenzene	100	Not detected		U
Total cresols(o,m & p)	300	820		
nitrobenzene	100	Not detected		U
hexachloroethane	100	Not detected		U
hexachlorobutadiene	100	Not detected		U
2,4,6-trichlorophenol	100	Not detected		U
2,4,5-trichlorophenol	100	Not detected		U
2,4-dinitrotoluene	100	Not detected		U
hexachlorobenzene	100	Not detected		U
pentachlorophenol	500	Not detected		U
2-Fluorophenol (%)		40	21- 100	
Phenol-d6 (%)		20	10- 94	
Nitrobenzene-d5 (%)		83	35- 114	
2-Fluorobiphenyl (%)		84	43- 116	
2,4,6-Tribromophenol (%)		69	10- 123	
Terphenyl-d14 (%)		83	33- 141	
Dilution Factor	10			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00

Group Number: 2002-255
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 10/02/00

WST ID: WS71815
Client ID: C - Composite
Digestion Date: 10/03/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/04/00	SW-846 6010
Barium by ICP	0.025	0.948	10/04/00	SW-846 6010
Cadmium by ICP	0.025	1.57	10/04/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/04/00	SW-846 6010
Copper by ICP	0.045	Not detected	10/04/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/04/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/03/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/04/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/04/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/04/00	SW-846 6010
Zinc by ICP	0.065	4.27	10/04/00	SW-846 6010

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00
TCLP Extraction Date: 10/02/00

Group Number: 2002-255
Units: µg/L
Matrix: TCLP Extract

WST ID: WS71815
Client ID: C - Composite
Extraction Date: 10/05/00
Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		76	60-150	
Decachlorobiphenyl (%)		78	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00
TCLP Extraction Date: 10/02/00

Group Number: 2002-255
Units: mg/L
Matrix: TCLP Extract

WST ID: WS71815
Client ID: C - Composite
Extraction Date: 10/03/00
Date Analyzed: 10/04/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		129	10- 127	
Dilution Factor	1			

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 09/26/00

Date Received: 09/27/00

Group Number: 2002-255

Units: mg/Kg

Matrix: Solid

WST ID: WS71815

Client ID: C - Composite

Extraction Date: 10/05/00

Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	1.50	Not detected		U
aroclor 1221	1.20	Not detected		U
aroclor 1232	1.80	Not detected		U
aroclor 1242	0.900	Not detected		U
aroclor 1248	0.600	Not detected		U
aroclor 1254	0.300	Not detected		U
aroclor 1260	0.300	Not detected		U
Decachlorobiphenyl (%)		99	60-150	
Tetrachloro-m-xylene (%)		84	60-150	

Dilution Factor 30

Waste Stream Technology, Inc.
Wet Chemistry Analyses

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00

Group Number: 2002-255
Matrix: Solid

WST ID: WS71815
Client ID C - Composite

Analysis	Method Reference	Detection Limit	Result	Units	Date Analyzed
Ignitability (flash point)	SW-846 1010	NA	>200	° F	10/02/00

> 200 = no flash detected at a temperature up to 200 degrees Fahrenheit.

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☒ Hazardous ☐ Non-Hazardous ☐ TSCAProfile Number: WMI **CN6873**
Renewal Date: 1 / 1

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EXHIBIT ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description

a. Name of Waste: OILY LIQUID
b. Process Generating Waste: DRUM EXHAUSTION

DRUM # 123, 14

c. Color <u>BLACK/ BROWN</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other _____	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to <u>100%</u> h. pH: Range to <u>8.49%</u>
-------------------------------------	--	---	---	---

i. Liquid Flash Point: ☐ <73°F ☒ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☐ Not applicable

j. Chemical Composition (List all constituents (including halogenated organics, debris, and UHC's) present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>BENZENE</u>	<u>0 - 944 PPB</u>	<u>DRUM PARTS/DEBRIS</u>	<u>0 - 50%</u>
<u>CRETOLS</u>	<u>0 - 569 PPB</u>	<u>OILY LIQUID</u>	<u>50 - 100%</u>
<u>CHROME</u>	<u>0 - 23 PPM</u>	<u>SEE TCLP ANALYSIS</u>	
<u>NICKEL</u>	<u>0 - 11 PPM</u>	<u>WS 72613</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j).....

☒ YES ☐ NO

m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j).....

☐ YES ☒ NO

n. Does the waste represented by this profile contain asbestos?.....

☐ YES ☒ NOIf yes..... ☐ friable ☐ non-friable

o. Does the waste represented by this profile contain benzene?.....

☒ YES ☐ NOIf yes, concentration 0.94 ppm

Is the waste subject to the benzene waste operations NESHAP?.....

☐ YES ☒ NO

p. Is the waste subject to RCRA Subpart CC controls?.....

☐ YES ☒ NO

If no, does the waste meet the organic LDR Exemption?.....

☒ YES ☐ NO

If no, does the waste contain <500 ppmw volatile organic (VO)?.....

☒ YES ☐ NO

Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?.....

☐ YES ☒ NO

r. Does the waste contain debris? (list in Section B.1.j).....

☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 2 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: 1 - 110 GALLON☐ Bulk Liquid; Type/Size: _____☒ Drum; Type; Size: 1 - 55 GALLON OVER PAC☐ Other: _____b. Shipping Frequency: Units 2 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Otherc. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☒ YES ☐ NO

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.,kgs.): _____ e. Hazard Class/ID #: _____
 f. USDOT Shipping Name: FLAMMABLE LIQUID, TOXIC, MDS. (BENZENE), 3, UN1992, PG II,
 g. Personal Protective Equipment Requirements: (USEPA D018, D001)
 h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☒ YES ☐ NO
 a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) D018
 b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) ☒ YES ☐ NO
 c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☒ YES ☐ NO
2. Is this a state hazardous waste? ☒ YES ☐ NO
 Identify ALL state hazardous waste codes D018
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
 If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. WMDEP, 21E SITE # 3-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) ☐ YES ☒ NO
 a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Morrow Title: PRINCIPAL ENV. SPEC.
 Name (Type or Print): STEVE MORROW Company Name: GLIA CORPORATION Date: 11/13/
☒ Check if additional information is attached. Indicate the number of attached pages _____

D. WM Management's Decision

FOR WM USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
☐ Approved ☐ Disapproved
- Special Waste Decision: _____
 Salesperson's Signature: _____ Date: _____
 Division Approval Signature (Optional): _____ Date: _____
 Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol. Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
WS72606	Sulfide	40.0	126	10/19/00
WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
WS72608	+Cu	40.0	48.2	10/20/00
WS72609	Partially/Slightly H2O sol. Resins&Solids	40.0	40.1	10/20/00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	40.0	Not detected	10/20/00
→ WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	98.6	10/23/00
WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
WS72606	Sulfide	NA	77.0	10/23/00
WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
WS72608	+Cu	NA	82.4	10/23/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
WS72606	Sulfide	40.0	Not detected	10/19/00
WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
WS72608	+Cu	40.0	Not detected	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	Not detected	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
→WS72613	Oily Liquid	40.0	Not detected	10/20/00
→WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid

SW-846 9045C

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	6.24	10/17/00
WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
WS72606	Sulfide	NA	7.75	10/17/00
WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
WS72608	+Cu	NA	4.00	10/17/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	7.92	10/17/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	6.03	10/17/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	7.18	10/17/00
→ WS72613	Oily Liquid	NA	8.49	10/17/00
WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.
Wet Chemistry Analyses

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Oil

WST ID: WS72613
Client ID Oily Liquid

Analysis	Method Reference	Detection Limit	Result	Units	Date Analyzed
Ignitability (flash point)	SW-846 1010	NA	77.0	° F	10/19/00

Waste Stream Technology, Inc.

VOCs by Waste Dilution TCLP List

SW-846 8260B

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: ug/kg

Matrix: Oil

WST ID: WS72613

Client ID: Oily Liquid

Extraction Date: 10/26/00

Date Analyzed: 10/26/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	5000	Not detected		U
1,1-dichloroethene	2500	Not detected		U
chloroform	2500	Not detected		U
2-butanone	50000	Not detected		U
1,2-dichloroethane	2500	Not detected		U
carbon tetrachloride	2500	Not detected		U
trichloroethene	2500	Not detected		U
benzene	2500	944		J
tetrachloroethene	2500	Not detected		U
chlorobenzene	2500	Not detected		U
1,4-dichlorobenzene	2500	Not detected		U
1,2-Dichloroethane-d4 (%)		92	70- 121	
Toluene-d8 (%)		98	81- 117	
Bromofluorobenzene (%)		116	74- 121	
Dilution Factor	4			

Waste Stream Technology, Inc.

8270 Waste Dilution - TCLP List

SW-846 8270

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Oil

WST ID: WS72613

Client ID: Oily Liquid

Extraction Date: 10/26/00

Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	20	Not detected		U
1,4-dichlorobenzene	20	Not detected		U
total cresols (o,m & p)	60	569		
nitrobenzene	20	Not detected		U
hexachloroethane	20	Not detected		U
hexachlorobutadiene	20	Not detected		U
2,4,6-trichlorophenol	20	Not detected		U
2,4,5-trichlorophenol	20	Not detected		U
2,4-dinitrotoluene	20	Not detected		U
hexachlorobenzene	20	Not detected		U
pentachlorophenol	100	Not detected		U
2-Fluorophenol (%)		82	25- 121	
Phenol-d6 (%)		70	24- 113	
Nitrobenzene-d5 (%)		85	23- 120	
2-Fluorobiphenyl (%)		116	30- 115	#
2,4,6-Tribromophenol (%)		65	19- 122	
Terphenyl-d14 (%)		156	18- 137	#

Dilution Factor 2

Waste Stream Technology, Inc.

Waste Dilution TCLP Pesticides

SW-846 8081

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: µg/Kg

Matrix: Oil

WST ID: WS72613

Client ID: Oily Liquid

Extraction Date: 10/26/00

Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
gamma-BHC	16	Not detected		U
heptachlor	97	Not detected		U
heptachlor epoxide	42	Not detected		U
endrin	55	Not detected		U
methoxychlor	31	Not detected		U
chlordane	350	Not detected		U
toxaphene	1550	Not detected		U
Tetrachloro-m-xylene (%)		88	60-150	
Decachlorobiphenyl (%)		71	60-150	

Dilution Factor 1

Waste Stream Technology, Inc.

Herbicides by Waste Dilution

SW-846 8151

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Oil

WST ID: WS72613

lient ID: Oily Liquid

Extraction Date: 10/27/00

Date Analyzed: 10/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	1.8	Not detected		U
2,4,5-TP (silvex)	0.8	Not detected		U
2,4-DCPAA (%)		100	10-127	

Dilution Factor 1

Waste Stream Technology, Inc.
Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: mg/Kg
Matrix: Oil

WST ID: WS72613
Client ID: Oily Liquid
Digestion Date: 10/19/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	3.40	Not detected	10/19/00	SW-846 6010
Barium by ICP	2.00	Not detected	10/19/00	SW-846 6010
Cadmium by ICP	2.00	Not detected	10/19/00	SW-846 6010
Chromium by ICP	2.00	23.1	10/19/00	SW-846 6010
Copper by ICP	2.00	5.59	10/19/00	SW-846 6010
Lead by ICP	8.20	Not detected	10/19/00	SW-846 6010
Mercury by Cold Vapor	0.014	Not detected	10/20/00	SW-846 7471
Nickel by ICP	2.00	11.3	10/19/00	SW-846 6010
Selenium by ICP	2.80	Not detected	10/19/00	SW-846 6010
Silver by ICP	1.00	Not detected	10/19/00	SW-846 6010
Zinc by ICP	8.00	9.01	10/19/00	SW-846 6010

Waste Stream Technology, Inc.

PCBs in Oil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Oil

WST ID: WS72613

Client ID: Oily Liquid

Extraction Date: 10/27/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
Aroclor 1016	0.5	Not detected		U
Aroclor 1221	0.5	Not detected		U
Aroclor 1232	0.5	Not detected		U
Aroclor 1242	0.5	Not detected		U
Aroclor 1248	0.5	Not detected		U
Aroclor 1254	0.5	Not detected		U
Aroclor 1260	0.5	Not detected		U
Decachlorobiphenyl (%)		76	60- 150	
Tetrachloro-m-xylene (%)		87	60- 150	

Dilution Factor 1

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following: when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration, Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration, Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.

Daniel W. Vollmer
Daniel W. Vollmer
QA/QC Officer

Date 11/3/00

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☒ Hazardous ☐ Non-Hazardous ☐ TSCA

Profile Number: WMI

CN6875

Renewal Date: / /

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 ERMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MURROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: SLIGHTLY/PARTIALLY HEXAMETHYLENE H₂O SOL. RESINS
b. Process Generating Waste: DRUM EXHAUSTION
DRUM # 94, 100, 127, 44, 61, 62, 72

c. Color <u>BROWN/BLACK</u> <u>RED/WHITE</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to %
--	--	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
FLASH POINT	117°F	DRUM PARTS/DEBRIS	0-50%
CRYSTALS	0-8 PPH	RESINS	50-100%
CHROMIUM	0-28 PPM	SEE TCEP ANALYSIS	
BARIUM	0-93 PPM	WS 72611	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactivel. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NOm. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NOn. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NOIf yes..... ☐ friable ☐ non-friableo. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO

If yes, concentration _____ ppm

Is the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NOp. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NOIf no, does the waste meet the organic LDR Exemption?..... ☒ YES ☐ NOIf no, does the waste contain <500 ppmw volatile organic (VO)?..... ☒ YES ☐ NO

Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NOr. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 7 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: _____ ☐ Bulk Liquid; Type/Size: _____☒ Drum; Type; Size: 7-85 GALLON DRUMS ☐ Other: _____b. Shipping Frequency: Units 1 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Otherc. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☒ YES ☐ NO

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs./kgs.): _____ e. Hazard Class/ID #: 4.1
f. USDOT Shipping Name: FLAMMABLE SOLIDS, TOXIC, ORGANIC, N.O.S. (CHROMIUM), 4.
g. Personal Protective Equipment Requirements: UN 2926, PG II (USEPA D)
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☒ YES ☐ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) D006
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.) ☒ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☒ YES ☐ NO
2. Is this a state hazardous waste? ☒ YES ☐ NO
Identify ALL state hazardous waste codes D006
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP, 21E SITE # 3-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.) ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Morrow Title: PRINCIPAL ENV. SPECIALIST
Name (Type or Print): STEVE MORROW Company Name: OLIN CORPORATION Date: 11/13/2

☒ Check if additional information is attached. Indicate the number of attached pages 14

D. WM Management's Decision**FOR WM USE ONLY**

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
- Special Waste Decision: ☐ Approved ☐ Disapproved
- Salesperson's Signature: _____ Date: _____
- Division Approval Signature (Optional): _____ Date: _____
- Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol.Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
WS72606	Sulfide	40.0	126	10/19/00
WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
WS72608	+Cu	40.0	48.2	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	40.1	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
→ WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	98.6	10/23/00
WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
WS72606	Sulfide	NA	77.0	10/23/00
WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
WS72608	+Cu	NA	82.4	10/23/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
→ WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
WS72606	Sulfide	40.0	Not detected	10/19/00
WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
WS72608	+Cu	40.0	Not detected	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	Not detected	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
→ WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	6.24	10/17/00
WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
WS72606	Sulfide	NA	7.75	10/17/00
WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
WS72608	+Cu	NA	4.00	10/17/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	7.92	10/17/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	6.03	10/17/00
→ WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	7.18	10/17/00
WS72613	Oily Liquid	NA	8.49	10/17/00
WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72611

Client ID: Slightly/Partially Hexane&H2O sol. Resins

TCLP Date: 10/26/00

Date Analyzed: 10/31/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		95	70-121	
Toluene-d8 (%)		98	81-117	
Bromofluorobenzene (%)		87	74-121	
Dilution Factor	1			

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/18/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72611

Client ID: Slightly/Partially Hexane&H2O sol. Resins

Extraction Date: 10/26/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	8		J
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		48	21-100	
Phenol-d6 (%)		29	10-94	
Nitrobenzene-d5 (%)		94	35-114	
2-Fluorobiphenyl (%)		103	43-116	
2,4,6-Tribromophenol (%)		181	10-123	#
Terphenyl-d14 (%)		205	33-141	#
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/18/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extract

WST ID: WS72611

lient ID: Slightly/Partially Hexane&H2O sol.Resins

Extraction Date: 10/27/00

Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		73	60- 150	
Decachlorobiphenyl (%)		73	60- 150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/18/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extract

WST ID: WS72611

lient ID: Slightly/Partially Hexane&H2O sol.Resins

Extraction Date: 10/26/00

Date Analyzed: 10/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		62	10-127	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extrac
TCLP Extraction Date: 10/18/00

WST ID: WS72611
Client ID: Slightly/Partially Hexane&H2O sol.Resins
Digestion Date: 10/24/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	0.090	10/25/00	SW-846 6010
Barium by ICP	0.025	92.5	10/25/00	SW-846 6010
Cadmium by ICP	0.025	28.1	10/25/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/25/00	SW-846 6010
Copper by ICP	0.045	0.163	10/25/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/25/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/23/00	SW-846 7470
Nickel by ICP	0.025	0.034	10/25/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/25/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/25/00	SW-846 6010
Zinc by ICP	0.065	9.30	10/25/00	SW-846 6010

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Solid

WST ID: WS72611

Client ID: Slightly/Partially Hexane&H2O sol. Resins

Extraction Date: 10/27/00

Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.750	Not detected		U
aroclor 1221	0.600	Not detected		U
aroclor 1232	0.900	Not detected		U
aroclor 1242	0.450	Not detected		U
aroclor 1248	0.300	Not detected		U
aroclor 1254	0.150	Not detected		U
aroclor 1260	0.150	Not detected		U
Decachlorobiphenyl (%)		89	60-150	
Tetrachloro-m-xylene (%)		94	60-150	
Dilution Factor	15			

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following: when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration. Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration. Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.



Daniel W. Vollmer
QA/QC Officer

Date

11/3/00



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☒ Hazardous ☐ Non-Hazardous ☐ TSCA

Profile Number: WMI **CN6876**
Renewal Date: 1 / 1

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EMMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-336-4166
15. Billing Address: _____ ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: SLIGHTLY/PARTIALLY HEXANE SOL. RESINS & SOL
b. Process Generating Waste: DRUM EXCAVATION

DRUM # 108, 117, 119, 30, 58, 64, 65, 67, 120, 112, 121, 169, 59, 71

c. Color <u>BLACK/BROWN</u> <u>WHITE/RED</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to 6.03 %
--	---	---	---	---

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable
j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
FLASH POINT	100°F	DRUM PARTS/DEBRIS	0-50%
CREOSOL	0-14 PPB	RESINS	50-100%
CADMIUM	0-65 PPM		

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NO
m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NO
n. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes,..... ☐ friable ☐ non-friable
o. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO
If yes, concentration _____ ppm
Is the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NO
p. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NO
If no, does the waste meet the organic LDR Exemption?..... ☒ YES ☐ NO
If no, does the waste contain <500 ppmw volatile organic (VO)?..... ☒ YES ☐ NO
Volatile organic concentration _____ ppmw
q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NO
r. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 14 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:
☐ Bulk Solid; Type/Size: 3" ID F ☐ Bulk Liquid; Type/Size: _____
☒ Drum; Type; Size: 185 GALLON OVER PMS ☐ Other: _____
b. Shipping Frequency: Units 14 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other
c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☒ YES ☐ NO

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.;kgs.): _____ e. Hazard Class/ID #: 4.1
f. USDOT Shipping Name: FLAMMABLE SOLIDS, TOXIC, ORGANIC, N.O.S. (CADMIUM), 4.1, UN 2
g. Personal Protective Equipment Requirements: PGTI (USEPA 0006)
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☒ YES ☐ NO
 - a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) 0006
 - b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.) ☒ YES ☐ NO
 - c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☒ YES ☐ NO
2. Is this a state hazardous waste? ☒ YES ☐ NO
Identify ALL state hazardous waste codes 0006
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 21E SITE # 3-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.) ☐ YES ☒ NO
 - a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Morrow Title: PRINCIPAL ENVIRONMENTAL SPECIALIST
Name (Type or Print): STEVE MORROW Company Name: OLIV CORPORATION Date: 11/13/2
☒ Check if additional information is attached. Indicate the number of attached pages 14

D. WM Management's Decision

FOR WM USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
- Special Waste Decision: ☐ Approved ☐ Disapproved
- Salesperson's Signature: _____ Date: _____
- Division Approval Signature (Optional): _____ Date: _____
- Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol.Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
WS72606	Sulfide	40.0	126	10/19/00
WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
WS72608	+Cu	40.0	48.2	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	40.1	10/20/00
→ WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	98.6	10/23/00
WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
WS72606	Sulfide	NA	77.0	10/23/00
WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
WS72608	+Cu	NA	82.4	10/23/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
→ WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
WS72606	Sulfide	40.0	Not detected	10/19/00
WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
WS72608	+Cu	40.0	Not detected	10/20/00
WS72609	Partially/Slightly H2O sol. Resins&Solids	40.0	Not detected	10/20/00
→ WS72610	Slightly/Partially Hexane sol. Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	6.24	10/17/00
WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
WS72606	Sulfide	NA	7.75	10/17/00
WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
WS72608	+Cu	NA	4.00	10/17/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	7.92	10/17/00
→ WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	6.03	10/17/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	7.18	10/17/00
WS72613	Oily Liquid	NA	8.49	10/17/00
WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72610

Client ID: Slightly/Partially Hexane sol. Resins&Sol

TCLP Date: 10/27/00

Date Analyzed: 10/31/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		100	70- 121	
Toluene-d8 (%)		101	81-117	
Bromofluorobenzene (%)		92	74- 121	
Dilution Factor	1			

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/18/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72610

Client ID: Slightly/Partially Hexane sol.Resins&Sol

Extraction Date: 10/26/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	14		J
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		35	21-100	
Phenol-d6 (%)		35	10-94	
Nitrobenzene-d5 (%)		67	35-114	
2-Fluorobiphenyl (%)		79	43-116	
2,4,6-Tribromophenol (%)		108	10-123	
Terphenyl-d14 (%)		170	33-141	#
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/18/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extract

WST ID: WS72610
lient ID: Slightly/Partially Hexane sol.Resins&Sol
Extraction Date: 10/26/00
Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordan	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		76	60- 150	
Decachlorobiphenyl (%)		68	60- 150	

Dilution Factor 1

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/18/00

Group Number: 2002-275

Units: mg/L

Matrix: TCLP Extract

WST ID: WS72610

lient ID: Slightly/Partially Hexane sol. Resins&Sol

Extraction Date: 10/26/00

Date Analyzed: 10/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		106	10-127	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extrac
TCLP Extraction Date: 10/18/00

WST ID: WS72610
Client ID: Slightly/Partially Hexane sol.Resins&Sol
Digestion Date: 10/24/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/25/00	SW-846 6010
Barium by ICP	0.025	2.15	10/25/00	SW-846 6010
Cadmium by ICP	0.025	65.1	10/25/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/25/00	SW-846 6010
Copper by ICP	0.045	0.202	10/25/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/25/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/23/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/25/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/25/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/25/00	SW-846 6010
Zinc by ICP	0.065	2.37	10/25/00	SW-846 6010

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Solid

WST ID: WS72610

Client ID: Slightly/Partially Hexane sol.Resins&Sol

Extraction Date: 10/27/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.750	Not detected		U
aroclor 1221	0.600	Not detected		U
aroclor 1232	0.900	Not detected		U
aroclor 1242	0.450	Not detected		U
aroclor 1248	0.300	Not detected		U
aroclor 1254	0.150	Not detected		U
aroclor 1260	0.150	Not detected		U
Decachlorobiphenyl (%)		91	60-150	
Tetrachloro-m-xylene (%)		103	60-150	

Dilution Factor 15

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following:
when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration. Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration. Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.

Daniel W. Vollmer
Daniel W. Vollmer
QA/QC Officer

Date 11/3/00

Drum Removal RAM, Status Report No. 2 and
Completion Statement
Olin Corporation
July 12, 2001

DISPOSAL TESTING RESULTS – OVERPACK DRUMS, NON-HAZARDOUS



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCA

Profile Number: WMI **CK 5108**
Renewal Date: / /

A. Waste Generator Information

1. Generator Name: OLIM CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EXHES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON MA 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIM CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MCGRAW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: WS 71813 COMPOSITE A
b. Process Generating Waste: DRUM EXCAVATION
DRUM # 21, 151, 142

c. Color <u>YELLOW</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>8.30</u> %
---------------------------	--	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☐ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTIVE SULFIDE</u>	<u>0 - 40.9 PPM</u>	<u>DRUM PARTS/DEBRIS</u>	<u>0 - 50 %</u>
<u>CRESOL</u>	<u>0 - 16 PPM</u>	<u>SOLIDS</u>	<u>50 - 100 %</u>
<u>CHROMIUM</u>	<u>0 - 0.098 PPM</u>	<u>SEE ATTACHED TCF</u>	
<u>FLASH POINT</u>	<u>> 200 °F</u>	<u>ANALYSIS WS 71813</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NO

m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NO

n. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes..... ☐ friable ☐ non-friable

o. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO
If yes, concentration _____ ppm

Is the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NO

p. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NO
If yes, volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NO

r. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 3 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: _____

☐ Drum; Type; Size: 3-85 GALLON DRUMS

☐ Bulk Liquid; Type/Size: _____

☐ Other: _____

b. Shipping Frequency: Units 3 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☐ YES ☒ NO



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.; kgs.): _____ e. Hazard Class/ID #: _____
f. USDOT Shipping Name: NON REGULATED SOLIDS
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) _____ ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) _____ ☐ YES ☐ NO
2. Is this a state hazardous waste? _____ ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? _____ ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 21E SITE # 03-0431
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? _____ ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) _____ ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? _____ ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? _____ ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? _____ ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WMI to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Markow Title: PRINCIPAL ENV. SPECIALIST
Name (Type or Print): STEVE MARKOW Company Name: GLIN CORPORATION Date: 11/16/11
☐ Check if additional information is attached. Indicate the number of attached pages 11

D. WMI Management's Decision

FOR WMI USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
- Special Waste Decision: _____ ☐ Approved ☐ Disapproved
- Salesperson's Signature: _____ Date: _____
- Division Approval Signature (Optional): _____ Date: _____
- Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase
Date Received: 09/27/00

Group Number: 2002-255
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Date Sampled	Detection Limit	Result	Date Analyzed
→WS71813	A - Composite	09/26/00	40.0	40.9	09/29/00
WS71814	B - Composite	09/26/00	40.0	61.3	09/29/00
WS71815	C - Composite	09/26/00	40.0	121	09/29/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase
Date Received: 09/27/00

Group Number: 2002-255
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Date Sampled	Detection Limit	Result	Date Analyzed
→ WS71813	A - Composite	09/26/00	40.0 -	Not detected	09/29/00
WS71814	B - Composite	09/26/00	40.0	Not detected	09/29/00
WS71815	C - Composite	09/26/00	40.0	Not detected	09/29/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Received: 09/27/00

Group Number: 2002-255
Matrix: Solid
Units: pH Units

WST ID	Client ID	Date Sampled	Detection Limit	Result	Date Analyzed
→ WS71813	A - Composite	09/26/00	NA	8.30	10/02/00
WS71814	B - Composite	09/26/00	NA	6.53	10/02/00
WS71815	C - Composite	09/26/00	NA	8.43	10/02/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00

Group Number: 2002-255
Units: µg/L
Matrix: TCLP Extract

WST ID: WS71813
Client ID: A - Composite
TCLP Date: 10/04/00
Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		87	70-121	
Toluene-d8 (%)		88	81-117	
Bromofluorobenzene (%)		90	74-121	

Dilution Factor 1

Waste Stream Technology, Inc.**8270 TCLP Semivolatile Organics****1311/8270**

Site: Olin - Drum Phase

Date Sampled: 09/26/00

Date Received: 09/27/00

TCLP Extraction Date: 10/02/00

Group Number: 2002-255

Units: µg/L

Matrix: TCLP Extra

WST ID: WS71813

Client ID: A - Composite

Extraction Date: 10/05/00

Date Analyzed: 10/06/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	15.2		J
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		21	21- 100	
Phenol-d6 (%)		26	10- 94	
Nitrobenzene-d5 (%)		86	35- 114	
2-Fluorobiphenyl (%)		67	43- 116	
2,4,6-Tribromophenol (%)		11	10- 123	
Terphenyl-d14 (%)		452	33- 141	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00

Group Number: 2002-255
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 10/02/00

WST ID: WS71813
Client ID: A - Composite
Digestion Date: 10/03/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/04/00	SW-846 6010
Barium by ICP	0.025	Not detected	10/04/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/04/00	SW-846 6010
Chromium by ICP	0.025	0.098	10/04/00	SW-846 6010
Copper by ICP	0.045	Not detected	10/04/00	SW-846 6010
Lead by ICP	0.075	0.094	10/04/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/03/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/04/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/04/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/04/00	SW-846 6010
Zinc by ICP	0.065	0.396	10/04/00	SW-846 6010

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00
TCLP Extraction Date: 10/02/00

Group Number: 2002-255
Units: µg/L
Matrix: TCLP Extra

WST ID: WS71813
Client ID: A - Composite
Extraction Date: 10/05/00
Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		79	60-150	
Decachlorobiphenyl (%)		49	60-150	#
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase

Date Sampled: 09/26/00

Date Received: 09/27/00

TCLP Extraction Date: 10/02/00

Group Number: 2002-255

Units: mg/L

Matrix: TCLP Extract

WST ID: WS71813

Client ID: A - Composite

Extraction Date: 10/03/00

Date Analyzed: 10/04/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		88	10- 127	
Dilution Factor	1			

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 09/26/00

Date Received: 09/27/00

Group Number: 2002-255

Units: mg/Kg

Matrix: Solid

WST ID: WS71813

Client ID: A - Composite

Extraction Date: 10/05/00

Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	1.50	Not detected		U
aroclor 1221	1.20	Not detected		U
aroclor 1232	1.80	Not detected		U
aroclor 1242	0.900	Not detected		U
aroclor 1248	0.600	Not detected		U
aroclor 1254	0.300	Not detected		U
aroclor 1260	0.300	Not detected		U
Decachlorobiphenyl (%)		106	60-150	
Tetrachloro-m-xylene (%)		103	60-150	

Dilution Factor 30

Waste Stream Technology, Inc.
Wet Chemistry Analyses

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00

Group Number: 2002-255
Matrix: Solid

WST ID: WS71813
Client ID A - Composite

Analysis	Method Reference	Detection Limit	Result	Units	Date Analyzed
Ignitability (flash point)	SW-846 1010	NA	>200	° F	10/02/00

> 200 = no flash detected at a temperature up to 200 degrees Fahrenheit.



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCA

Profile Number: WMI **CK 5109**
Renewal Date: / /

A. Waste Generator Information

1. Generator Name: GLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EXMOS ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA 001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: GLIN CORPORATION 12. Customer Phone: (428) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 428-336-4666
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: WS 71814 COMPOSITE B
b. Process Generating Waste: DRUM EXHAUSTION
DRUM # 23,147,140,139

c. Color <u>BROWN/TAN</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>6.53</u> %
------------------------------	--	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTIVE SULFIDES</u>	<u>0-61.3 PPM</u>	<u>DRUM PARTS/DEBRIS</u>	<u>0-50%</u>
<u>ZINC</u>	<u>0-0.83 PPM</u>	<u>SOLIDS</u>	<u>50-100%</u>
<u>FLASH POINT</u>	<u>>200°F</u>	<u>SEE ATTACHED TCLP</u>	
		<u>ANALYSIS WS 71814</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NO
m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NO
n. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes..... ☐ friable ☐ non-friable
o. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO
If yes, concentration _____ ppm
Is the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NO
p. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NO
If yes, volatile organic concentration _____ ppmw
q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NO
r. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste
Estimated Annual Volume 4 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:
☐ Bulk Solid; Type/Size: _____ ☐ Bulk Liquid; Type/Size: _____
☒ Drum; Type; Size: 4-85 GALLON DRUMS ☐ Other: _____
b. Shipping Frequency: Units 4 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other
c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☐ YES ☒ NO



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.; kgs.): _____ e. Hazard Class/ID #: _____
f. USDOT Shipping Name: NON REGULATED SOLIDS
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (If yes, list in Section B.1.) ☐ YES ☐ NO
c. Does this waste contain debris? (If yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
2. Is this a state hazardous waste? ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 21E SITE # 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (If yes, list in Chemical Composition - B.1.) ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WMI to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Morrow Title: PRINCIPAL ENV. SPECIALIST
Name (Type or Print): STEVE MORROW Company Name: OLIN CORPORATION Date: 11/16/2000
☒ Check if additional information is attached. Indicate the number of attached pages 11

D. WMI Management's Decision

FOR WMI USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
Special Waste Decision ☐ Approved ☐ Disapproved
Salesperson's Signature: _____ Date: _____
Division Approval Signature (Optional): _____ Date: _____
Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Received: 09/27/00

Group Number: 2002-255

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Date Sampled	Detection Limit	Result	Date Analyzed
WS71813	A - Composite	09/26/00	40.0	40.9	09/29/00
→ WS71814	B - Composite	09/26/00	40.0	61.3	09/29/00
WS71815	C - Composite	09/26/00	40.0	121	09/29/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase
Date Received: 09/27/00

Group Number: 2002-255
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Date Sampled	Detection Limit	Result	Date Analyzed	
WS71813	A - Composite	09/26/00	40.0	-	Not detected	09/29/00
WS71814	B - Composite	09/26/00	40.0		Not detected	09/29/00
WS71815	C - Composite	09/26/00	40.0		Not detected	09/29/00

Waste Stream Technology, Inc.

pH in Solid

SW-846 9045C

Site: Olin - Drum Phase

Date Received: 09/27/00

Group Number: 2002-255

Matrix: Solid

Units: pH Units

WST ID	Client ID	Date Sampled	Detection Limit	Result	Date Analyzed
WS71813	A - Composite	09/26/00	NA	8.30	10/02/00
→ WS71814	B - Composite	09/26/00	NA	6.53	10/02/00
WS71815	C - Composite	09/26/00	NA	8.43	10/02/00

Waste Stream Technology, Inc.
TCLP Volatile Organics Analysis
1311/8260B

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00

Group Number: 2002-255
Units: µg/L
Matrix: TCLP Extra

WST ID: WS71814
Client ID: B - Composite
TCLP Date: 10/04/00
Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		89	70-121	
Toluene-d8 (%)		88	81-117	
Bromofluorobenzene (%)		91	74-121	
Dilution Factor	1			

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase

Date Sampled: 09/26/00

Date Received: 09/27/00

TCLP Extraction Date: 10/02/00

Group Number: 2002-255

Units: µg/L

Matrix: TCLP Extract

WST ID: WS71814

Client ID: B - Composite

Extraction Date: 10/05/00

Date Analyzed: 10/06/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	Not detected		U
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		40	21-100	
Phenol-d6 (%)		27	10-94	
Nitrobenzene-d5 (%)		91	35-114	
2-Fluorobiphenyl (%)		91	43-116	
2,4,6-Tribromophenol (%)		114	10-123	
Terphenyl-d14 (%)		92	33-141	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00

Group Number: 2002-255
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 10/02/00

WST ID: WS71814
Client ID: B - Composite
Digestion Date: 10/03/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/04/00	SW-846 6010
Barium by ICP	0.025	Not detected	10/04/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/04/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/04/00	SW-846 6010
Copper by ICP	0.045	0.101	10/04/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/04/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/03/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/04/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/04/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/04/00	SW-846 6010
Zinc by ICP	0.065	0.832	10/04/00	SW-846 6010

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00
TCLP Extraction Date: 10/02/00

Group Number: 2002-255
Units: µg/L
Matrix: TCLP Extract

WST ID: WS71814
Client ID: B - Composite
Extraction Date: 10/05/00
Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		109	60-150	
Decachlorobiphenyl (%)		89	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00
TCLP Extraction Date: 10/02/00

Group Number: 2002-255
Units: mg/L
Matrix: TCLP Extract

WST ID: WS71814
Client ID: B - Composite
Extraction Date: 10/03/00
Date Analyzed: 10/04/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		98	10-127	
Dilution Factor	1			

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 09/26/00

Date Received: 09/27/00

Group Number: 2002-255

Units: mg/Kg

Matrix: Solid

WST ID: WS71814

Client ID: B - Composite

Extraction Date: 10/05/00

Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	1.50	Not detected		U
aroclor 1221	1.20	Not detected		U
aroclor 1232	1.80	Not detected		U
aroclor 1242	0.900	Not detected		U
aroclor 1248	0.600	Not detected		U
aroclor 1254	0.300	Not detected		U
aroclor 1260	0.300	Not detected		U
Decachlorobiphenyl (%)		111	60-150	
Tetrachloro-m-xylene (%)		94	60-150	

Dilution Factor 30

Waste Stream Technology, Inc.
Wet Chemistry Analyses

Site: Olin - Drum Phase
Date Sampled: 09/26/00
Date Received: 09/27/00

Group Number: 2002-255
Matrix: Solid

WST ID: WS71814
Client ID B - Composite

Analysis	Method Reference	Detection Limit	Result	Units	Date Analyzed
Ignitability (flash point)	SW-846 1010	NA	>200	° F	10/02/00

> 200 = no flash detected at a temperature up to 200 degrees Fahrenheit.

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI **CN6863**
Renewal Date: 1 / 1

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EAMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: PARTIALLY SLIGHTLY H₂O SOL. RESINS & SOLIDS
b. Process Generating Waste: DRUM EXHAUSTION
DRUM # 160, 103, 38, 39, 32, 31, 49, 60, 74, 132, 95, 141, 130, 88, 159, 6

c. Color <u>BLACK/BROWN</u> <u>WHITE/RED</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to 7.92 %
--	--	---	---	---

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable
j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>FLASH POINT</u>	<u>> 200 °F</u>	<u>DRUM PARTS/ DEBRIS</u>	<u>0 - 50 %</u>
<u>CREOSOLS</u>	<u>0 - 59 PPH</u>	<u>RESINS</u>	<u>50 - 100 %</u>

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NO
m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NO
n. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes..... ☐ friable ☐ non-friable
o. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO
If yes, concentration _____ ppm
Is the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NO
p. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NO
If no, does the waste meet the organic LDR Exemption?..... ☒ YES ☐ NO
If no, does the waste contain <500 ppmw volatile organic (VO)?..... ☒ YES ☐ NO
Volatile organic concentration _____ ppmw
q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NO
r. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 16 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:
☐ Bulk Solid; Type/Size: 5-110 + (1-55 GAL. DRUM) ☐ Bulk Liquid; Type/Size: _____
☒ Drum; Type; Size: 0-85 GALLON OVER PNC ☐ Other: _____
b. Shipping Frequency: Units 1 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other
c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☐ YES ☒ NO

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs./kgs.): _____ e. Hazard Class/ID #: _____
f. USDOT Shipping Name: NON-REGULATED RESINS & SOLIDS
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
2. Is this a state hazardous waste? ☐ YES ☐ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MA DEP, 21E SITE # 3-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Morrow Title: PRINCIPAL ENV. SPEC
Name (Type or Print): STEVE MORROW Company Name: OLIN CORPORATION Date: 11/18/14
☐ Check if additional information is attached. Indicate the number of attached pages 14

D. WM Management's Decision

FOR WM USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
- Special Waste Decision: ☐ Approved ☐ Disapproved
- Salesperson's Signature: _____ Date: _____
- Division Approval Signature (Optional): _____ Date: _____
- Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
→ WS72609	Partially/Slightly H2O sol.Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
WS72606	Sulfide	40.0	126	10/19/00
WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
WS72608	+Cu	40.0	48.2	10/20/00
→ WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	40.1	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	98.6	10/23/00
WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
WS72606	Sulfide	NA	77.0	10/23/00
WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
WS72608	+Cu	NA	82.4	10/23/00
→ WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
WS72606	Sulfide	40.0	Not detected	10/19/00
WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
WS72608	+Cu	40.0	Not detected	10/20/00
→ WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	Not detected	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	6.24	10/17/00
WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
WS72606	Sulfide	NA	7.75	10/17/00
WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
WS72608	+Cu	NA	4.00	10/17/00
→ WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	7.92	10/17/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	6.03	10/17/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	7.18	10/17/00
WS72613	Oily Liquid	NA	8.49	10/17/00
WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72609

Client ID: Partially/Slightly H2O sol. Resins&Solids

TCLP Date: 10/27/00

Date Analyzed: 10/31/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		95	70-121	
Toluene-d8 (%)		95	81-117	
Bromofluorobenzene (%)		88	74-121	
Dilution Factor	1			

Waste Stream Technology, Inc.**8270 TCLP Semivolatile Organics****1311/8270**

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/18/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72609

Client ID: Partially/Slightly H2O sol. Resins & Solids

Extraction Date: 10/26/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	59		
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		46	21- 100	
Phenol-d6 (%)		19	10- 94	
Nitrobenzene-d5 (%)		89	35- 114	
2-Fluorobiphenyl (%)		80	43- 116	
2,4,6-Tribromophenol (%)		106	10- 123	
Terphenyl-d14 (%)		172	33- 141	#
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/18/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extrac.

WST ID: WS72609

lient ID: Partially/Slightly H2O sol.Resins&Solids

Extraction Date: 10/26/00

Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		86	60- 150	
Decachlorobiphenyl (%)		72	60- 150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/18/00

Group Number: 2002-275
Units: mg/L
Matrx: TCLP Extract

WST ID: WS72609

lient ID: Partially/Slightly H2O sol.Resins&Solids

Extraction Date: 10/26/00

Date Analyzed: 10/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		106	10-127	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extra

TCLP Extraction Date: 10/18/00

WST ID: WS72609

Client ID: Partially/Slightly H2O sol. Resins&Solids

Digestion Date: 10/20/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	0.060	10/20/00	SW-846 6010
Barium by ICP	0.025	0.044	10/20/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/20/00	SW-846 6010
Chromium by ICP	0.025	0.038	10/20/00	SW-846 6010
Copper by ICP	0.045	0.158	10/20/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/20/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/23/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/20/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/20/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/20/00	SW-846 6010
Zinc by ICP	0.065	0.436	10/20/00	SW-846 6010

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Solid

WST ID: WS72609

Client ID: Partially/Slightly H2O sol. Resins&Solids

Extraction Date: 10/27/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.750	Not detected		U
aroclor 1221	0.600	Not detected		U
aroclor 1232	0.900	Not detected		U
aroclor 1242	0.450	Not detected		U
aroclor 1248	0.300	Not detected		U
aroclor 1254	0.150	Not detected		U
aroclor 1260	0.150	Not detected		U
Decachlorobiphenyl (%)		83	60- 150	
Tetrachloro-m-xylene (%)		85	60- 150	

Dilution Factor 15

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following: when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration. Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration. Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.

Daniel W. Vollmer
Daniel W. Vollmer
QA/QC Officer

Date 11/3/00

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI **CN6872**
Renewal Date: 1 / 1

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EXMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORKOW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description

a. Name of Waste: WATER SOLUBLE LIQUID
b. Process Generating Waste: DRUM REMOVAL

DRUM # 081

c. Color	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>12.3</u> %
----------	---	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☒ ≥ 200°F ☐ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>SULFIDE</u>	<u>48.1 PPM</u>	<u>SEE ATTACHED</u>	
<u>CHLOROFORM</u>	<u>10 ppb</u>	<u>TCLP ANALYSIS</u>	
<u>DRUM PARTS/DEBRIS</u>	<u>0-50 %</u>	<u>WS 72615</u>	
<u>LIQUID</u>	<u>50-100 %</u>		

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j).....

☐ YES ☒ NO

m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j).....

☐ YES ☒ NO

n. Does the waste represented by this profile contain asbestos?.....

☐ YES ☒ NOIf yes..... ☐ friable ☐ non-friable

o. Does the waste represented by this profile contain benzene?.....

☐ YES ☒ NO

If yes, concentration _____ ppm

Is the waste subject to the benzene waste operations NESHAP?.....

☐ YES ☒ NO

p. Is the waste subject to RCRA Subpart CC controls?.....

☐ YES ☒ NO

If no, does the waste meet the organic LDR Exemption?.....

☒ YES ☐ NO

If no, does the waste contain <500 ppmw volatile organic (VO)?.....

☒ YES ☐ NO

Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?.....

☐ YES ☒ NO

r. Does the waste contain debris? (list in Section B.1.j).....

☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 1 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: _____☐ Bulk Liquid; Type/Size: _____☒ Drum; Type; Size: 85 GAL. OVERPAC☐ Other: _____b. Shipping Frequency: Units 1 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Otherc. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☐ YES ☒ NO

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs./kgs.): _____ e. Hazard Class/ID #: _____
f. USDOT Shipping Name: NON-REGULATED WATER SOLUBLE LIQUID
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
2. Is this a state hazardous waste? ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MNDP, 216 SITE # 3-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Markow Title: PRINCIPAL ENV. SPECIALIST
Name (Type or Print): STEVE MARKOW Company Name: GLIN CORPORATION Date: 12/13/2
☒ Check if additional information is attached. Indicate the number of attached pages 12

D. WM Management's Decision**FOR WM USE ONLY**

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
Special Waste Decision: ☐ Approved ☐ Disapproved
Salesperson's Signature: _____ Date: _____
Division Approval Signature (Optional): _____ Date: _____
Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol. Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
→ WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.
Wet Chemistry Analyses

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Aqueous

WST ID: WS72615
Client ID Water Sol. Liquid

Analysis	Method Reference	Detection Limit	Result	Units	Date Analyzed
pH Analysis Result	SW-846 9040C	NA	12.30	pH Units	10/17/00

Waste Stream Technology, Inc.
Wet Chemistry Analyses

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Aqueous

WST ID: WS72615
Client ID Water Sol. Liquid

Analysis	Method Reference	Detection Limit	Result	Units	Date Analyzed
Ignitability (flash point)	SW-846 1010	NA	>200	° F	10/19/00

> 200 = no flash detected at a temperature up to 200 degrees Fahrenheit

Waste Stream Technology, Inc.
Wet Chemistry Analyses

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Aqueous

WST ID: WS72615
Client ID Water Sol. Liquid

Analysis	Method Reference	Detection Limit	Result	Units	Date Analyzed
Section 7.3.3.2 Reactive Cyanide	SW-846 9014	40.0	Not detected	mg/L	10/19/00
Section 7.3.4.2 Reactive Sulfide	SW-846 9034	40.0	48.1	mg/L	10/19/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: µg/L

Matrix: Aqueous

WST ID: WS72615

Client ID: Water Sol. Liquid

TCLP Date: NA

Date Analyzed: 10/31/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	10		J
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		92	70-121	
Toluene-d8 (%)		97	81-117	
Bromofluorobenzene (%)		90	74-121	

Dilution Factor 1

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: NA

Group Number: 2002-275

Units: µg/L

Matrix: Aqueous

WST ID: WS72615

Client ID: Water Sol. Liquid

Extraction Date: 10/26/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	125	Not detected		U
1,4-dichlorobenzene	125	Not detected		U
Total cresols(o,m & p)	375	Not detected		U
nitrobenzene	125	Not detected		U
hexachloroethane	125	Not detected		U
hexachlorobutadiene	125	Not detected		U
2,4,6-trichlorophenol	125	Not detected		U
2,4,5-trichlorophenol	125	Not detected		U
2,4-dinitrotoluene	125	Not detected		U
hexachlorobenzene	125	Not detected		U
pentachlorophenol	625	Not detected		U
2-Fluorophenol (%)		85	21- 100	
Phenol-d6 (%)		56	10- 94	
Nitrobenzene-d5 (%)		17	35- 114	#
2-Fluorobiphenyl (%)		104	43- 116	
2,4,6-Tribromophenol (%)		120	10- 123	
Terphenyl-d14 (%)		100	33- 141	
Dilution Factor	12.5			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: NA

Group Number: 2002-275
Units: µg/L
Matrix: Aqueous

WST ID: WS72615
lient ID: Water Sol. Liquid
Extraction Date: 10/27/00
Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	4.20	Not detected		U
endrin	0.660	Not detected		U
gamma-BHC (Lindane)	0.192	Not detected		U
heptachlor	1.16	Not detected		U
heptachlor epoxide	0.504	Not detected		U
methoxychlor	0.372	Not detected		U
toxaphene	18.5	Not detected		U
Tetrachloro-m-xylene (%)		91	60- 150	
Decachlorobiphenyl (%)		81	60- 150	
Dilution Factor	12			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: NA

Group Number: 2002-275
Units: mg/L
Matrix: Aqueous

WST ID: WS72615
lient ID: Water Sol. Liquid
Extraction Date: 10/26/00
Date Analyzed: 10/30/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.100	Not detected		U
2,4,5-TP (Silvex)	0.100	Not detected		U
2,4-DCPAA (%)		60	10-127	
Dilution Factor	5			

Waste Stream Technology, Inc.

PCBs in Water

SW-846 8082

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: µg/L
Matrix: Aqueous

WST ID: WS72615
Client ID: Water Sol. Liquid
Extraction Date: 10/23/00
Date Analyzed: 10/24/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.25	Not detected		U
aroclor 1221	0.31	Not detected		U
aroclor 1232	0.27	Not detected		U
aroclor 1242	0.23	Not detected		U
aroclor 1248	0.32	Not detected		U
aroclor 1254	0.26	Not detected		U
aroclor 1260	0.24	Not detected		U
Decachlorobiphenyl (%)		21	60-150	#
Tetrachloro-m-xylene (%)		38	60-150	#

Dilution Factor 1

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following: when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration. Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration. Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.

Daniel W. Vollmer
Daniel W. Vollmer
QA/QC Officer

Date 11/3/00

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI
Renewal Date: / /

CN6883

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EMMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MAD 001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-336-4166
15. Billing Address _____ ☒ Same as above

B. Waste Stream Information

1. Description

a. Name of Waste: WS 71718 COMPOSITE D
b. Process Generating Waste: DRUM REMOVAL

DRUM # 7, 114, 115, 134, 161, 164, 128, 22

c. Color	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to 7.3 %
----------	---	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>FLASH POINT</u>	<u>> 200 °F</u>	<u>DRUM PARTS/DEBRIS</u>	<u>6 - 50 %</u>
<u>REACTIVE SULFIDE</u>	<u>118 PPM</u>	<u>SOLIDS</u>	<u>50 - 100 %</u>
<u>CHROMIUM</u>	<u>201 PPB</u>	<u>SEE ATTACHMENT T&P</u>	
		<u>ANALYSIS WS 71718</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j).....

☐ YES ☒ NO

m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j).....

☐ YES ☒ NOn. Does the waste represented by this profile contain asbestos?.....
If yes,..... ☐ friable ☐ non-friable☐ YES ☒ NOo. Does the waste represented by this profile contain benzene?.....
If yes, concentration _____ ppm☐ YES ☒ NO

Is the waste subject to the benzene waste operations NESHAP?.....

☐ YES ☒ NO

p. Is the waste subject to RCRA Subpart CC controls?.....

☐ YES ☒ NO

If no, does the waste meet the organic LDR Exemption?.....

☒ YES ☐ NO

If no, does the waste contain <500 ppmw volatile organic (VO)?.....

☒ YES ☐ NO

Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?.....

☐ YES ☒ NO

r. Does the waste contain debris? (list in Section B.1.j).....

☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 8 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: _____☐ Bulk Liquid; Type/Size: _____☒ Drum; Type; Size: 85 GALLON OUNDRAC☐ Other: _____b. Shipping Frequency: Units 8 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☐ YES ☒ NO

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.;kgs.): _____ e. Hazard Class/ID #: _____
 f. USDOT Shipping Name: NON-REGULATED SOLIDS
 g. Personal Protective Equipment Requirements: _____
 h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

- Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
 a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
 b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (If yes, list in Section B.1.) ☐ YES ☐ NO
 c. Does this waste contain debris? (If yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
- Is this a state hazardous waste? ☐ YES ☒ NO
 Identify ALL state hazardous waste codes _____
- Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
 If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 21E SITE # 03-0471
- Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
- Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (If yes, list in Chemical Composition - B.1.) ☐ YES ☒ NO
 a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
- Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
- Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: [Signature] Title: PRINCIPAL ENV. SPECIALIST
 Name (Type or Print): STEVE MCKRAW Company Name: SLM CORPORATION Date: 11/15/00
☒ Check if additional information is attached. Indicate the number of attached pages 11

D. WM Management's Decision

FOR WM USE ONLY

- Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
 - Proposed Ultimate Management Facility: _____
 - Precautions, Special Handling Procedures, or Limitation on Approval: _____
 - Waste Form _____
 - Source _____
 - System Type ☐ Approved ☐ Disapproved
- Special Waste Decision: _____
 Salesperson's Signature: _____ Date: _____
 Division Approval Signature (Optional): _____ Date: _____
 Special Waste Approvals Person Signature: _____ Date: _____

COMPOSITE FORM

Composite ID: D W 571718

[illegible]

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	NA	127	09/27/00
WS71716	B - Composite	NA	>200	09/27/00
→ WS71718	D - Composite	NA	>200	09/27/00
WS71719	E - Composite	NA	>200	09/27/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	NA	4.46	09/28/00
WS71716	B - Composite	NA	7.32	09/28/00
→ WS71718	D - Composite	NA	7.73	09/28/00
WS71719	E - Composite	NA	6.36	09/28/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	40.0	Not detected	09/29/00
WS71716	B - Composite	40.0	Not detected	09/29/00
→ WS71718	D - Composite	40.0	Not detected	09/29/00
WS71719	E - Composite	40.0	Not detected	09/29/00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	40.0	118	09/29/00
WS71716	B - Composite	40.0	81.8	09/29/00
→ WS71718	D - Composite	40.0	118	09/29/00
WS71719	E - Composite	40.0	40.9	09/29/00

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Units: mg/Kg

Matrix: Solid

WST ID: WS71718

Client ID: D - Composite

Extraction Date: 09/28/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.05	Not detected		U
aroclor 1221	0.04	Not detected		U
aroclor 1232	0.06	Not detected		U
aroclor 1242	0.03	Not detected		U
aroclor 1248	0.02	Not detected		U
aroclor 1254	0.01	Not detected		U
aroclor 1260	0.01	Not detected		U
Decachlorobiphenyl (%)		69	60- 150	
Tetrachloro-m-xylene (%)		63	60- 150	

Dilution Factor 1

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 09/27/00

WST ID: WS71718
Client ID: D - Composite
Digestion Date: 10/02/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/02/00	SW-846 6010
Barium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Copper by ICP	0.045	Not detected	10/02/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/02/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/03/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/02/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/02/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/02/00	SW-846 6010
Zinc by ICP	0.065	0.071	10/02/00	SW-846 6010

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-253
Units: mg/L
Matrix: TCLP Extr

WST ID: WS71718
Client ID: D - Composite
Extraction Date: 09/28/00
Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		91	10-127	
Dilution Factor	1			

Waste Stream Technology, Inc.**TCLP Pesticide Analysis**

1311/8081

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-253
Units: µg/L
Matrix: TCLP Extract

WST ID: WS71718
Client ID: D - Composite
Extraction Date: 10/02/00
Date Analyzed: 10/04/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		57	60-150	#
Decachlorobiphenyl (%)		83	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

TCLP Extraction Date: 09/27/00

Group Number: 2002-253

Units: µg/L

Matrix: TCLP Extr: t

WST ID: WS71718

Client ID: D - Composite

Extraction Date: 09/26/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	201		
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		46	21-100	
Phenol-d6 (%)		23	10-94	
Nitrobenzene-d5 (%)		95	35-114	
2-Fluorobiphenyl (%)		86	43-116	
2,4,6-Tribromophenol (%)		120	10-123	
Terphenyl-d14 (%)		94	33-141	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Units: µg/L
Matrix: TCLP Extract

WST ID: WS71718
Client ID: D - Composite
TCLP Date: 10/02/00
Date Analyzed: 10/03/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		105	70- 121	
Toluene-d8 (%)		97	81- 117	
Bromofluorobenzene (%)		105	74- 121	

Dilution Factor 1

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCA

Profile Number: WMI

CN6885

Renewal Date: / /

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 GAMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 376-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-376-4166
15. Billing Address _____ ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: WS 71719 COMPOSITE E
b. Process Generating Waste: DRUM REMOVAL

DRUM # 107, 110, 91, 131

c. Color _____	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other _____	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>6.36</u> %
----------------	---	---	---	--

- i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable
j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
FLASH POINT	> 200 °F	DRUM PARTS/DEBRIS	0 - 50 %
REACTIVE SULFIDE	0 - 41 ppm	SOLIDS	50 - 100 %
CETOL	0 - 105 PPH	308 ATTACHED TEF	
		ANALYSIS WS 71719	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

- k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.).....

☐ YES ☒ NO

m. Does the waste represented by this profile contain dioxins? (list in Section B.1.).....

☐ YES ☒ NO

n. Does the waste represented by this profile contain asbestos?.....
If yes..... ☐ friable ☐ non-friable

☐ YES ☒ NO

o. Does the waste represented by this profile contain benzene?.....
If yes, concentration _____ ppm

☐ YES ☒ NO

Is the waste subject to the benzene waste operations NESHAP?.....

☐ YES ☒ NO

p. Is the waste subject to RCRA Subpart CC controls?.....

☐ YES ☒ NO

If no, does the waste meet the organic LDR Exemption?.....

☒ YES ☐ NO

If no, does the waste contain <500 ppmw volatile organic (VO)?.....

☒ YES ☐ NO

Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?.....

☐ YES ☒ NO

r. Does the waste contain debris? (list in Section B.1.).....

☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 4 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: 3-110 GALLON

☐ Bulk Liquid; Type/Size: _____

☒ Drum; Type; Size: 1-85 GALLON OVERHAUL

☐ Other: _____

b. Shipping Frequency: Units 4 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☐ YES ☒ NO

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.;kgs.): _____ e. Hazard Class/ID #: _____
f. USDOT Shipping Name: NON-REGULATED SOLIDS
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (If yes, list in Section B.1.j) _____ ☐ YES ☐ NO
c. Does this waste contain debris? (If yes, list size and type in Chemical Composition - B.1.) _____ ☐ YES ☐ NO
2. Is this a state hazardous waste? _____ ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? _____ ☐ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 21E SITE # 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? _____ ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (If yes, list in Chemical Composition - B.1.j) _____ ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? _____ ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? _____ ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? _____ ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: [Signature] Title: PRINCIPAL ENV. SPECIALIST
Name (Type or Print): STEVE MORROW Company Name: OLIN CORPORATION Date: 11/15/2000

☒ Check if additional information is attached. Indicate the number of attached pages 11

D. WM Management's Decision**FOR WM USE ONLY**

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
- Special Waste Decision _____ ☐ Approved ☐ Disapproved
- Salesperson's Signature: _____ Date: _____
- Division Approval Signature (Optional): _____ Date: _____
- Special Waste Approvals Person Signature: _____ Date: _____

FROM:

Composite ID: E WS 71719

[illegible]

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	NA	4.46	09/28/00
WS71716	B - Composite	NA	7.32	09/28/00
WS71718	D - Composite	NA	7.73	09/28/00
→ WS71719	E - Composite	NA	6.36	09/28/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	NA	127	09/27/00
WS71716	B - Composite	NA	>200	09/27/00
WS71718	D - Composite	NA	>200	09/27/00
→ WS71719	E - Composite	NA	>200	09/27/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	40.0	Not detected	09/29/00
WS71716	B - Composite	40.0	Not detected	09/29/00
WS71718	D - Composite	40.0	Not detected	09/29/00
→ WS71719	E - Composite	40.0	Not detected	09/29/00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	40.0	118	09/29/00
WS71716	B - Composite	40.0	81.8	09/29/00
WS71718	D - Composite	40.0	118	09/29/00
→ WS71719	E - Composite	40.0	40.9	09/29/00

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Units: mg/Kg

Matrix: Solid

WST ID: WS71719

Client ID: E - Composite

Extraction Date: 09/28/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.05	Not detected		U
aroclor 1221	0.04	Not detected		U
aroclor 1232	0.06	Not detected		U
aroclor 1242	0.03	Not detected		U
aroclor 1248	0.02	Not detected		U
aroclor 1254	0.01	Not detected		U
aroclor 1260	0.01	Not detected		U
Decachlorobiphenyl (%)		31	60- 150	#
Tetrachloro-m-xylene (%)		27	60- 150	#

Dilution Factor 1

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Units: mg/L
Matrix: TCLP Extr
TCLP Extraction Date: 09/27/00

WST ID: WS71719
Client ID: E - Composite
Digestion Date: 10/02/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/02/00	SW-846 6010
Barium by ICP	0.025	0.078	10/02/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Copper by ICP	0.045	0.204	10/02/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/02/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/03/00	SW-846 7470
Nickel by ICP	0.025	0.026	10/02/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/02/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/02/00	SW-846 6010
Zinc by ICP	0.065	0.304	10/02/00	SW-846 6010

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-253
Units: mg/L
Matrix: TCLP Extract

WST ID: WS71719
Client ID: E - Composite
Extraction Date: 09/28/00
Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		82	10-127	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-253
Units: µg/L
Matrix: TCLP Extr. t

WST ID: WS71719

Client ID: E - Composite

Extraction Date: 10/02/00

Date Analyzed: 10/04/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		57	60-150	#
Decachlorobiphenyl (%)		70	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

TCLP Extraction Date: 09/27/00

Group Number: 2002-253

Units: µg/L

Matrix: TCLP Extrac

WST ID: WS71719

Client ID: E - Composite

Extraction Date: 09/26/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	105		
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		40	21- 100	
Phenol-d6 (%)		30	10- 94	
Nitrobenzene-d5 (%)		86	35- 114	
2-Fluorobiphenyl (%)		81	43- 116	
2,4,6-Tribromophenol (%)		112	10- 123	
Terphenyl-d14 (%)		85	33- 141	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Units: µg/L
Matrix: TCLP Extr. 4

WST ID: WS71719
Client ID: E - Composite
TCLP Date: 10/04/00
Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		
1,1-dichloroethene	50	Not detected		
chloroform	50	Not detected		
2-butanone	1000	Not detected		
1,2-dichloroethane	50	Not detected		
carbon tetrachloride	50	Not detected		
trichloroethene	50	Not detected		
benzene	50	Not detected		
tetrachloroethene	50	Not detected		
chlorobenzene	50	Not detected		
1,4-dichlorobenzene	50	Not detected		
1,2-Dichloroethane-d4 (%)		90	70-121	
Toluene-d8 (%)		88	81-117	
Bromofluorobenzene (%)		92	74-121	
Dilution Factor	1			

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI **CN6887**
Renewal Date: / /

A. Waste Generator Information

1. Generator Name: GLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 FRAMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: GLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MURROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: WS 71716 Composite B
b. Process Generating Waste: DRUM REMAINS

DRUM # 20, 35, 36, 79

c. Color	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>7.32</u> %
----------	---	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable
j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>FLASH POINT</u>	<u>> 200 F</u>		
<u>REACTIVE SULFIDE</u>	<u>0-82 ppm</u>		
<u>ZINC</u>	<u>0-2.10 ppm</u>		

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.)..... ☐ YES ☒ NO
m. Does the waste represented by this profile contain dioxins? (list in Section B.1.)..... ☐ YES ☒ NO
n. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes..... ☐ friable ☐ non-friable
o. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO
If yes, concentration _____ ppm
Is the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NO
p. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NO
If no, does the waste meet the organic LDR Exemption?..... ☒ YES ☐ NO
If no, does the waste contain <500 ppmw volatile organic (VO)?..... ☒ YES ☐ NO
Volatile organic concentration _____ ppmw
q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NO
r. Does the waste contain debris? (list in Section B.1.)..... ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 4 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: 2-110 GAL☐ Bulk Liquid; Type/Size: _____☐ Drum; Type; Size: 2-85 GALLON OVERPACK☐ Other: _____b. Shipping Frequency: Units 4 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☐ YES ☒ NO

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPE

d. Reportable Quantity (lbs.;kgs.): _____ e. Hazard Class/ID #: _____
f. USDOT Shipping Name: NON REGULATED SOLIDS
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
 a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
 b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.) ☐ YES ☐ NO
 c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
2. Is this a state hazardous waste? ☐ YES ☒ NO
 Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
 If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 215 SITE # 03-0431
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.) ☐ YES ☒ NO
 a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Morrow Title: PRINCIPAL ENV. SPECIALIST
 Name (Type or Print): STEVE MORROW Company Name: OLIN CORPORATION Date: 11/16/2000
☒ Check if additional information is attached. Indicate the number of attached pages 11

D. WM Management's Decision

FOR WM USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
- Special Waste Decision: ☐ Approved ☐ Disapproved
- Salesperson's Signature: _____ Date: _____
- Division Approval Signature (Optional): _____ Date: _____
- Special Waste Approvals Person Signature: _____ Date: _____

COMPOSITE FORM

Composite ID: B WS71716

[illegible]

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	NA	127	09/27/00
→WS71716	B - Composite	NA	>200	09/27/00
WS71718	D - Composite	NA	>200	09/27/00
WS71719	E - Composite	NA	>200	09/27/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	NA	4.46	09/28/00
→ WS71716	B - Composite	NA	7.32	09/28/00
WS71718	D - Composite	NA	7.73	09/28/00
WS71719	E - Composite	NA	6.36	09/28/00

Waste Stream Technology, Inc.
Section 7.3.3.2 Reactive Cyanide
SW-846 9014

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	40.0	Not detected	09/29/00
→ WS71716	B - Composite	40.0	Not detected	09/29/00
WS71718	D - Composite	40.0	Not detected	09/29/00
WS71719	E - Composite	40.0	Not detected	09/29/00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71715	A - Composite	40.0	118	09/29/00
→ WS71716	B - Composite	40.0	81.8	09/29/00
WS71718	D - Composite	40.0	118	09/29/00
WS71719	E - Composite	40.0	40.9	09/29/00

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Units: mg/Kg

Matrix: Solid

WST ID: WS71716

Client ID: B - Composite

Extraction Date: 09/28/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.05	Not detected		U
aroclor 1221	0.04	Not detected		U
aroclor 1232	0.06	Not detected		U
aroclor 1242	0.03	Not detected		U
aroclor 1248	0.02	Not detected		U
aroclor 1254	0.01	Not detected		U
aroclor 1260	0.01	Not detected		U
Decachlorobiphenyl (%)		74	60-150	
Tetrachloro-m-xylene (%)		72	60-150	

Dilution Factor 1

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 09/27/00

WST ID: WS71716
Client ID: B - Composite
Digestion Date: 10/02/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/02/00	SW-846 6010
Barium by ICP	0.025	0.119	10/02/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Copper by ICP	0.045	0.660	10/02/00	SW-846 6010
Lead by ICP	0.075	0.184	10/02/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/03/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/02/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/02/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/02/00	SW-846 6010
Zinc by ICP	0.065	2.10	10/02/00	SW-846 6010

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

TCLP Extraction Date: 09/27/00

Group Number: 2002-253

Units: mg/L

Matrix: TCLP Ext c

WST ID: WS71716

Client ID: B - Composite

Extraction Date: 09/28/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		77	10- 127	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-253
Units: µg/L
Matrix: TCLP Extract

WST ID: WS71716
Client ID: B - Composite
Extraction Date: 10/02/00
Date Analyzed: 10/04/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		56	60-150	#
Decachlorobiphenyl (%)		67	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.**8270 TCLP Semivolatile Organics****1311/8270**

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

TCLP Extraction Date: 09/27/00

Group Number: 2002-253

Units: µg/L

Matrix: TCLP Extr t

WST ID: WS71716

Client ID: B - Composite

Extraction Date: 09/26/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	Not detected		U
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		45	21-100	
Phenol-d6 (%)		30	10-94	
Nitrobenzene-d5 (%)		88	35-114	
2-Fluorobiphenyl (%)		93	43-116	
2,4,6-Tribromophenol (%)		118	10-123	
Terphenyl-d14 (%)		91	33-141	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Units: µg/L

Matrix: TCLP Extract

WST ID: WS71716

Client ID: B - Composite

TCLP Date: 10/02/00

Date Analyzed: 10/03/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		102	70-121	
Toluene-d8 (%)		90	81-117	
Bromofluorobenzene (%)		99	74-121	
Dilution Factor	1			



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCA

Profile Number: WMI
Renewal Date: / /

CK 5111

A. Waste Generator Information

1. Generator Name: DLIN CORPORATION
2. SIC Code: 9999
3. Facility Street Address: 51 EMMS ST
4. Phone: (978) 658-6121
5. Facility City: WILMINGTON
6. State/Province: MA
7. Zip/Postal Code: 01887
8. Generator USEPA/Federal ID #: MA0001403107
9. County: _____
10. State/Province ID #: _____
11. Customer Name: DLIN CORPORATION
12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MARROW
14. Customer Fax: 423-336-4166
15. Billing Address _____ ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: WS 71651 COMPOSITE B
b. Process Generating Waste: DRUM REMOVAL

DRUM # 90, 97, 11, 144, 102, 163

c. Color <u>BROWN/BLACK</u> <u>RED/WHITE</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to 7.07 %
--	--	---	---	---

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☐ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTIVE SULFIDE</u>	<u>0-105 PPM</u>	<u>DRUM PARTS/DEBRIS</u>	<u>0-50%</u>
<u>FLASH POINT</u>	<u>106°F</u>	<u>SOLIDS</u>	<u>50-100%</u>
<u>CHLORINE</u>	<u>0-102 PPM</u>	<u>SCF ATTACHMENT TOLP</u>	
<u>CRESOL</u>	<u>0-215 PPM</u>	<u>ANALYSIS WS 71651</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.)

☐ YES ☒ NO

m. Does the waste represented by this profile contain dioxins? (list in Section B.1.)

☐ YES ☒ NO

n. Does the waste represented by this profile contain asbestos? If yes, _____ ☐ friable ☐ non-friable

☐ YES ☒ NO

o. Does the waste represented by this profile contain benzene? If yes, concentration _____ ppm

☐ YES ☒ NO

p. Is the waste subject to the benzene waste operations NESHAP? _____

☐ YES ☒ NO

q. Is the waste subject to RCRA Subpart CC controls? If yes, volatile organic concentration _____ ppmw

☐ YES ☒ NO

r. Does the waste contain any Class I or Class II ozone-depleting substances? _____

☐ YES ☒ NO

s. Does the waste contain debris? (list in Section B.1.) _____

☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 5 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: 2-110 GALLON

☐ Bulk Liquid; Type/Size: _____

☒ Drum; Type; Size: 3-55 GALLON OVERHEAD

☐ Other: _____

b. Shipping Frequency: Units 5 Per. ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f.) _____ ☐ YES ☐ NO



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.; kgs.): _____ e. Hazard Class/ID #: 4.1
f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, N.O.S., 4.1, UN 1325, PG II
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.) ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
2. Is this a state hazardous waste? ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MURPHY 215 SITE # 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.) ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WMI to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Morrow Title: PRINCIPAL ENV. SPECIALIST
Name (Type or Print): STEVE MORROW Company Name: OLIN CORPORATION Date: 11/16/2000
☐ Check if additional information is attached. Indicate the number of attached pages 11

D. WMI Management's Decision

FOR WMI USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
Special Waste Decision: ☐ Approved ☐ Disapproved
Salesperson's Signature: _____ Date: _____
Division Approval Signature (Optional): _____ Date: _____
Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71650	A - Composite	40.0	134	09/29/00
→ WS71651	B - Composite	40.0	105	09/29/00
WS71652	C - Composite	40.0	81.0	09/29/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00

Group Number: 2002-251
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71650	A - Composite	40.0	Not detected	09/29/00
→WS71651	B - Composite	40.0	Not detected	09/29/00
WS71652	C - Composite	40.0	Not detected	09/29/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00

Group Number: 2002-251
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71650	A - Composite	NA -	7.74	09/28/00
→ WS71651	B - Composite	NA	7.07	09/28/00
WS71652	C - Composite	NA	4.17	09/28/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71650	A - Composite	NA	131	09/27/00
→ WS71651	B - Composite	NA	106	09/27/00
WS71652	C - Composite	NA	102	09/27/00

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Units: mg/Kg

Matrix: Solid

WST ID: WS71651

Client ID: B - Composite

Extraction Date: 09/28/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.200	Not detected		U
aroclor 1221	0.160	Not detected		U
aroclor 1232	0.240	Not detected		U
aroclor 1242	0.120	Not detected		U
aroclor 1248	0.080	Not detected		U
aroclor 1254	0.040	Not detected		U
aroclor 1260	0.040	Not detected		U
Decachlorobiphenyl (%)		27	60-150	#
Tetrachloro-m-xylene (%)		26	60-150	#

Dilution Factor 4

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00

Group Number: 2002-251
Units: mg/L
Matrix: TCLP Extra
TCLP Extraction Date: 09/27/00

WST ID: WS71651
Client ID: B - Composite
Digestion Date: 10/02/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/02/00	SW-846 6010
Barium by ICP	0.025	0.055	10/02/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Chromium by ICP	0.025	1.02	10/02/00	SW-846 6010
Copper by ICP	0.045	0.085	10/02/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/02/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	09/28/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/02/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/02/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/02/00	SW-846 6010
Zinc by ICP	0.065	9.61	10/02/00	SW-846 6010

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

TCLP Extraction Date: 09/27/00

Group Number: 2002-251

Units: µg/L

Matrix: TCLP Extract

WST ID: WS71651

Client ID: B - Composite

Extraction Date: 10/02/00

Date Analyzed: 10/04/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		75	60-150	
Decachlorobiphenyl (%)		81	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

TCLP Extraction Date: 09/27/00

Group Number: 2002-251

Units: mg/L

Matrix: TCLP Extr

WST ID: WS71651

Client ID: B - Composite

Extraction Date: 09/28/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		117	10- 127	
Dilution Factor	1			

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-251
Units: $\mu\text{g/L}$
Matrix: TCLP Extract

WST ID: WS71651
Client ID: B - Composite
Extraction Date: 09/26/00
Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o, m & p)	30	215	TCLP 200	
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		41	21-100	
Phenol-d6 (%)		22	10-94	
Nitrobenzene-d5 (%)		91	35-114	
2-Fluorobiphenyl (%)		87	43-116	
2,4,6-Tribromophenol (%)		107	10-123	
Terphenyl-d14 (%)		94	33-141	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Units: µg/L

Matrix: TCLP Extr. 1

WST ID: WS71651

Client ID: B - Composite

TCLP Date: 09/29/00

Date Analyzed: 10/02/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		96	70-121	
Toluene-d8 (%)		94	81-117	
Bromofluorobenzene (%)		97	74-121	
Dilution Factor	1			

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI
Renewal Date: / /

CN6874

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EMERSON ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description

a. Name of Waste: MIXED RESINS & SOLIDS
b. Process Generating Waste: DRUM EXHAUSTION

DRUM # 99, 104, 1, 3, 4, 5, 52, 50, 93, 8, 118, 149, 150, 153, 154, 170
129, 155, 168

c. Color <u>BROWN/RED</u> <u>WHITE/BLACK</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range <u>0 to 5 %</u> h. pH: Range <u>2.82 to</u> %
--	---	---	---	---

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTIVE SULFIDE</u>	<u>423 PPM</u>	<u>DRUM FRAGMENTS/DEBRIS</u>	<u>0 - 50 %</u>
<u>FLASH POINT</u>	<u>111 °F</u>	<u>RESINS</u>	<u>50 - 100 %</u>
<u>TOTAL CROSYLS</u>	<u>0 - 128 PPB</u>	<u>SEE TCLP ANALYSIS</u>	
<u>CHROMIUM</u>	<u>0 - 0.028 PPM</u>	<u>WS 77614</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NO
m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NO
n. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes..... ☐ friable ☐ non-friable
o. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO
If yes, concentration _____ ppm
Is the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NO
p. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NO
If no, does the waste meet the organic LDR Exemption?..... ☒ YES ☐ NO
If no, does the waste contain <500 ppmw volatile organic (VO)?..... ☒ YES ☐ NO
Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NOr. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 18 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: 3-110+☐ Bulk Liquid; Type/Size: _____☒ Drum; Type; Size: 5-85 GALLON☐ Other: _____

b. Shipping Frequency: Units

1Per: ☐ Month ☐ Quarter ☐ Year☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☒ YES ☐ NO

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs./kgs.): _____ e. Hazard Class/ID #: 4.1
 f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, N.O.S., 4.1, UN 1325, PG II
 g. Personal Protective Equipment Requirements: _____
 h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

- Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
 a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
 b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) _____ ☐ YES ☐ NO
 c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) _____ ☐ YES ☐ NO
- Is this a state hazardous waste? _____ ☐ YES ☒ NO
 Identify ALL state hazardous waste codes _____
- Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? _____ ☒ YES ☐ NO
 If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP, MCP SITE # 3-0471
- Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? _____ ☐ YES ☒ NO
- Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) _____ ☐ YES ☒ NO
 a. If yes, were the PCBs imported into the U.S.? _____ ☐ YES ☐ NO
- Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? _____ ☒ YES ☐ NO
- Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? _____ ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Morrow Title: PRINCIPAL ENV. SPECIALIST
 Name (Type or Print): STEVE MORROW Company Name: OLIM CORPORATION Date: 11/13/20
☒ Check if additional information is attached. Indicate the number of attached pages _____

D. WM Management's Decision

FOR WM USE ONLY

- Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
- Proposed Ultimate Management Facility: _____
- Precautions, Special Handling Procedures, or Limitation on Approval: _____
- Waste Form _____
- Source _____
- System Type _____
☐ Approved ☐ Disapproved
- Special Waste Decision: _____
 Salesperson's Signature: _____ Date: _____
 Division Approval Signature (Optional): _____ Date: _____
 Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol. Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
→ WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.
Wet Chemistry Analyses

Site: Oil - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-278
Matrix: Solid

WST ID: W372614
Client ID Mixed Resins & Solids

Analysis	Method Reference	Detection Limit	Result	Units	Date Analyzed
Ignitability (flash point)	SW-846 1010		111	° F	10/23/00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
WS72606	Sulfide	40.0	126	10/19/00
WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
WS72608	+Cu	40.0	48.2	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	40.1	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
→ WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	98.6	10/23/00
WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
WS72606	Sulfide	NA	77.0	10/23/00
WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
WS72608	+Cu	NA	82.4	10/23/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.
Section 7.3.3.2 Reactive Cyanide
SW-846 9014

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
WS72606	Sulfide	40.0	Not detected	10/19/00
WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
WS72608	+Cu	40.0	Not detected	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	Not detected	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
→ WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	6.24	10/17/00
WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
WS72606	Sulfide	NA	7.75	10/17/00
WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
WS72608	+Cu	NA	4.00	10/17/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	7.92	10/17/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	6.03	10/17/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	7.18	10/17/00
WS72613	Oily Liquid	NA	8.49	10/17/00
→ WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72614

Client ID: Mixed Resins & Solids

TCLP Date: 10/27/00

Date Analyzed: 10/31/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		96	70-121	
Toluene-d8 (%)		96	81-117	
Bromofluorobenzene (%)		90	74-121	
Dilution Factor	1			

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/18/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extra

WST ID: WS72614

Client ID: Mixed Resins & Solids

Extraction Date: 10/26/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	128		
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		46	21-100	
Phenol-d6 (%)		21	10-94	
Nitrobenzene-d5 (%)		87	35-114	
2-Fluorobiphenyl (%)		91	43-116	
2,4,6-Tribromophenol (%)		114	10-123	
Terphenyl-d14 (%)		94	33-141	

Dilution Factor 1

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/18/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extract

WST ID: WS72614

Client ID: Mixed Resins & Solids

Extraction Date: 10/26/00

Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		86	60- 150	
Decachlorobiphenyl (%)		71	60- 150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/18/00

Group Number: 2002-275

Units: mg/L

Matrix: TCLP Extr

WST ID: WS72614

lient ID: Mixed Resins & Solids

Extraction Date: 10/26/00

Date Analyzed: 10/30/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		78	10-127	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 10/18/00

WST ID: WS72614
Client ID: Mixed Resins & Solids
Digestion Date: 10/24/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/25/00	SW-846 6010
Barium by ICP	0.025	0.049	10/25/00	SW-846 6010
Cadmium by ICP	0.025	0.028	10/25/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/25/00	SW-846 6010
Copper by ICP	0.045	0.255	10/25/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/25/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/23/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/25/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/25/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/25/00	SW-846 6010
Zinc by ICP	0.065	0.304	10/25/00	SW-846 6010

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Solid

WST ID: WS72614

Client ID: Mixed Resins & Solids

Extraction Date: 10/27/00

Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.750	Not detected		U
aroclor 1221	0.600	Not detected		U
aroclor 1232	0.900	Not detected		U
aroclor 1242	0.450	Not detected		U
aroclor 1248	0.300	Not detected		U
aroclor 1254	0.150	Not detected		U
aroclor 1260	0.150	Not detected		U
Decachlorobiphenyl (%)		94	60-150	
Tetrachloro-m-xylene (%)		94	60-150	

Dilution Factor 15

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following:
when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration, Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration, Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.

Daniel W. Vollmer
Daniel W. Vollmer
QA/QC Officer

Date 11/3/00



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCA

Profile Number: WMI

CN6877

Renewal Date: / /

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EXMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MARROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description

a. Name of Waste: + Cub. Process Generating Waste: DRUM EXCAUTIONDRUM # 66,75

c. Color	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to 4.00 %
----------	---	---	---	---

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable

j. Chemical Composition (List all constituents (including halogenated organics, debris, and UHC's) present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
REACTIVE SULFIDES	48 PPM	CHROMIUM	0 - 0.106 PPM
FLASH POINT	82.4 °F	DRUM PARTS/DEBRIS	0 - 50 %
CHLOROFORM	0 - 27 PPb	SOLIDS	50 - 100 %
CRESOLS	0 - 9 PPb	SEE TCLP ANALYSIS	WS 72608

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j).....

☐ YES ☒ NO

m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j).....

☐ YES ☒ NO

n. Does the waste represented by this profile contain asbestos?.....

☐ YES ☒ NOIf yes..... ☐ friable ☐ non-friable

o. Does the waste represented by this profile contain benzene?.....

☐ YES ☒ NO

If yes, concentration _____ ppm

Is the waste subject to the benzene waste operations NESHAP?.....

☐ YES ☒ NO

p. Is the waste subject to RCRA Subpart CC controls?.....

☐ YES ☒ NO

If no, does the waste meet the organic LDR Exemption?.....

☒ YES ☐ NO

If no, does the waste contain <500 ppmw volatile organic (VO)?.....

☒ YES ☐ NO

Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?.....

☐ YES ☒ NO

r. Does the waste contain debris? (list in Section B.1.j).....

☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 2 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: _____☐ Bulk Liquid; Type/Size: _____☒ Drum; Type; Size: 85 GALLON OUGRPHC☐ Other: _____b. Shipping Frequency: Units 2 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☒ YES ☐ NO

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPE

d. Reportable Quantity (lbs./kgs.): _____ e. Hazard Class/ID #: 4.1
f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, N.O.S., 4.1, UN 1325, PG II
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
 a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
 b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) ☐ YES ☐ NO
 c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
2. Is this a state hazardous waste? ☐ YES ☒ NO
 Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
 If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MCP 216 SITE # 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) ☐ YES ☒ NO
 a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: [Signature] Title: PRINCIPAL ENV. SPECIALIST
 Name (Type or Print): STEVE MURROW Company Name: CLIN CORPORATION Date: 11/14/14
☒ Check if additional information is attached. Indicate the number of attached pages 14

D. WM Management's Decision

FOR WM USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
☐ Approved ☐ Disapproved
- Special Waste Decision: _____
 Salesperson's Signature: _____ Date: _____
 Division Approval Signature (Optional): _____ Date: _____
 Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
→ WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol.Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
WS72606	Sulfide	40.0	126	10/19/00
WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
→WS72608	+Cu	40.0	48.2	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	40.1	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	98.6	10/23/00
WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
WS72606	Sulfide	NA	77.0	10/23/00
WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
→ WS72608	+Cu	NA	82.4	10/23/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
WS72606	Sulfide	40.0	Not detected	10/19/00
WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
→ WS72608	+Cu	40.0	Not detected	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	Not detected	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	6.24	10/17/00
WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
WS72606	Sulfide	NA	7.75	10/17/00
WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
→ WS72608	+Cu	NA	4.00	10/17/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	7.92	10/17/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	6.03	10/17/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	7.18	10/17/00
WS72613	Oily Liquid	NA	8.49	10/17/00
WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extra

WST ID: WS72608

Client ID: +Cu

TCLP Date: 10/24/00

Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	27		J,B
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		101	70-121	
Toluene-d8 (%)		102	81-117	
Bromofluorobenzene (%)		96	74-121	

Dilution Factor 1

Waste Stream Technology, Inc.**8270 TCLP Semivolatile Organics****1311/8270**

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/18/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72608

Client ID: +Cu

Extraction Date: 10/24/00

Date Analyzed: 10/24/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	9		J
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		45	21-100	
Phenol-d6 (%)		32	10-94	
Nitrobenzene-d5 (%)		95	35-114	
2-Fluorobiphenyl (%)		88	43-116	
2,4,6-Tribromophenol (%)		72	10-123	
Terphenyl-d14 (%)		95	33-141	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/18/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extrac

WST ID: WS72608

lient ID: +Cu

Extraction Date: 10/26/00

Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordan	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		34	60- 150	#
Decachlorobiphenyl (%)		59	60- 150	#
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/18/00

Group Number: 2002-275

Units: mg/L

Matrix: TCLP Extract

WST ID: WS72608

Client ID: +Cu

Extraction Date: 10/26/00

Date Analyzed: 10/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		75	10-127	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 10/18/00

WST ID: WS72608
Client ID: +Cu
Digestion Date: 10/20/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	0.065	10/20/00	SW-846 6010
Barium by ICP	0.025	Not detected	10/20/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/20/00	SW-846 6010
Chromium by ICP	0.025	0.106	10/20/00	SW-846 6010
Copper by ICP	0.045	0.076	10/20/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/20/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/23/00	SW-846 7470
Nickel by ICP	0.025	0.053	10/20/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/20/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/20/00	SW-846 6010
Zinc by ICP	0.065	0.124	10/20/00	SW-846 6010

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Solid

WST ID: WS72608

Client ID: +Cu

Extraction Date: 10/27/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.750	Not detected		U
aroclor 1221	0.600	Not detected		U
aroclor 1232	0.900	Not detected		U
aroclor 1242	0.450	Not detected		U
aroclor 1248	0.300	Not detected		U
aroclor 1254	0.150	Not detected		U
aroclor 1260	0.150	Not detected		U
Decachlorobiphenyl (%)		90	60-150	
Tetrachloro-m-xylene (%)		88	60-150	

Dilution Factor 15

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following: when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration. Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration. Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.

Daniel W. Vollmer
Daniel W. Vollmer
QA/QC Officer

Date 11/3/00

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI **CN6878**
Renewal Date: / /

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EMMA ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MARKOW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: SULFIDE
b. Process Generating Waste: DRUM EXHAUSTION

DRUM # 125, 55, 63

c. Color	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>7.75</u> %
----------	---	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTIVE SULFIDE</u>	<u>0 - 360 PPM</u>	<u>DRUM PARTS/DEBRIS</u>	<u>0 - 50%</u>
<u>FLASH POINT</u>	<u>77 °F</u>	<u>SOLIDS</u>	<u>50 - 100%</u>
<u>CRESOLS</u>	<u>0 - 850 PPB</u>	<u>SEE ATTACHED TCLP</u>	
<u>ZINC</u>	<u>0 - 0.178 PPM</u>	<u>ANALYSIS US 72606</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j).....

☐ YES ☒ NO

m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j).....

☐ YES ☒ NO

n. Does the waste represented by this profile contain asbestos?.....

☐ YES ☒ NO

If yes.....

☐ friable ☐ non-friable

o. Does the waste represented by this profile contain benzene?.....

☐ YES ☒ NO

If yes, concentration _____ ppm

Is the waste subject to the benzene waste operations NESHAP?.....

☐ YES ☒ NO

p. Is the waste subject to RCRA Subpart CC controls?.....

☐ YES ☒ NO

If no, does the waste meet the organic LDR Exemption?.....

☒ YES ☐ NO

If no, does the waste contain <500 ppmw volatile organic (VO)?.....

☒ YES ☐ NO

Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?.....

☐ YES ☒ NO

r. Does the waste contain debris? (list in Section B.1.j).....

☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 3 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: 1-110+☐ Bulk Liquid; Type/Size: _____☒ Drum; Type; Size: 2-85 GALLON OPEN PAIL☐ Other: _____b. Shipping Frequency: Units 3Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☒ YES ☐ NO

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs., kgs.): _____ e. Hazard Class/ID #: _____
f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, U.O.S., 4.1, UN 1325, PG
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) _____ ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) _____ ☐ YES ☐ NO
2. Is this a state hazardous waste? _____ ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? _____ ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MRDEP 21E SITE # 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? _____ ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) _____ ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? _____ ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? _____ ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? _____ ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: [Signature] Title: PRINCIPAL ENV. SPEC
Name (Type or Print): _____ Company Name: _____ Date: 11/11
☐ Check if additional information is attached. Indicate the number of attached pages _____

D. WM Management's Decision**FOR WM USE ONLY**

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
☐ Approved ☐ Disapproved
- Special Waste Decision: _____
Salesperson's Signature: _____ Date: _____
Division Approval Signature (Optional): _____ Date: _____
Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
→ WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol.Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
→ WS72606	Sulfide	40.0	126	10/19/00
WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
WS72608	+Cu	40.0	48.2	10/20/00
WS72609	Partially/Slightly H2O sol. Resins&Solids	40.0	40.1	10/20/00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	98.6	10/23/00
WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
→ WS72606	Sulfide	NA	77.0	10/23/00
WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
WS72608	+Cu	NA	82.4	10/23/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
→ WS72606	Sulfide	40.0	Not detected	10/19/00
WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
WS72608	+Cu	40.0	Not detected	10/20/00
WS72609	Partially/Slightly H2O sol. Resins&Solids	40.0	Not detected	10/20/00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	6.24	10/17/00
WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
→ WS72606	Sulfide	NA	7.75	10/17/00
WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
WS72608	+Cu	NA	4.00	10/17/00
WS72609	Partially/Slightly H2O sol. Resins&Solids	NA	7.92	10/17/00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	NA	6.03	10/17/00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	NA	7.18	10/17/00
WS72613	Oily Liquid	NA	8.49	10/17/00
WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extr

WST ID: WS72606

Client ID: Sulfide

TCLP Date: 10/24/00

Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		104	70-121	
Toluene-d8 (%)		104	81-117	
Bromofluorobenzene (%)		97	74-121	
Dilution Factor	1			

Waste Stream Technology, Inc.**8270 TCLP Semivolatile Organics****1311/8270**

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/17/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extrac

WST ID: WS72606
Client ID: Sulfide
Extraction Date: 10/24/00
Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	100	Not detected		U
1,4-dichlorobenzene	100	Not detected		U
Total cresols(o,m & p)	300	850		
nitrobenzene	100	Not detected		U
hexachloroethane	100	Not detected		U
hexachlorobutadiene	100	Not detected		U
2,4,6-trichlorophenol	100	Not detected		U
2,4,5-trichlorophenol	100	Not detected		U
2,4-dinitrotoluene	100	Not detected		U
hexachlorobenzene	100	Not detected		U
pentachlorophenol	500	Not detected		U
2-Fluorophenol (%)		37	21- 100	
Phenol-d6 (%)		18	10- 94	
Nitrobenzene-d5 (%)		68	35- 114	
2-Fluorobiphenyl (%)		78	43- 116	
2,4,6-Tribromophenol (%)		84	10- 123	
Terphenyl-d14 (%)		77	33- 141	
Dilution Factor	10			

Technology, Inc.
Analysis

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extract

Site: Olin - Dr
Date Sampled:
Date Received:
TCLP Extraction:

372606
lfide
25/00
28/00

Result	QC Limits (%)	Qualifier
ot detected		U
ot detected		U
ot detected		U
ot detected		U
ot detected		U
ot detected		U
ot detected		U
78	60-150	
66	60-150	

Compound
pyridine
1,4-dichlorobenz
Total cresols
nitrobenzene
hexachloroeth
hexachlorobenz
2,4,6-trichloroph
2,4,5-trichloroph
2,4-dinitrotoluene
hexachlorobenze
pentachlorophen
2-Fluorophenol (%)
Phenol-d6 (%)
Nitrobenzene 5
2-Fluorobiphenyl
2,4,6-Tribromoph
Terphenyl-d10 (%)
Dilution Factor

Technology, Inc.
Analysis

Group Number: 2002-275
 Units: µg/L
 Matrix: TCLP Extract

Site: Olin - Dr
 Date Sampled:
 Date Received:
 TCLP Extraction

372606
 fide
 25/00
 28/00

Result	QC Limits (%)	Qualifier
Not detected		U
Not detected		U
Not detected		U
Not detected		U
Not detected		U
Not detected		U
Not detected		U
78	60- 150	
66	60- 150	

Compound
 pyridine
 1,4-dichlorobenz
 Total cresols(o,p
 nitrobenzene
 hexachloroethan
 hexachlorobutad
 2,4,6-trichloroph
 2,4,5-trichloroph
 2,4-dinitrotoluene
 hexachlorobenze
 pentachlorophen
 2-Fluorophenol ('
 Phenol-d6 (%)
 Nitrobenzene-d5
 2-Fluorobiphenyl
 2,4,6-Tribromoph
 Terphenyl-d14 (%)
Dilution Factor



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCA

Profile Number: WMI

CN6878

Renewal Date: / /

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MARKOW 14. Customer Fax: 423-336-4166
15. Billing Address _____ ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: SULFIDE
b. Process Generating Waste: DRUM EXHAUSTION
DRUM # 125, 55, 63

c. Color	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>7.75</u> %
----------	---	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTIVE SULFIDE</u>	<u>0 - 360 PPM</u>	<u>DRUM PHASES/DEBRIS</u>	<u>0 - 50%</u>
<u>FLASH POINT</u>	<u>77°F</u>	<u>SOLIDS</u>	<u>50 - 100%</u>
<u>CREOSOLS</u>	<u>0 - 850 PPM</u>	<u>SEE ATTACHED TCLP</u>	
<u>ZINC</u>	<u>0 - 0.178 PPM</u>	<u>ANALYSIS US 72606</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j).....

☐ YES ☒ NO

m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j).....

☐ YES ☒ NOn. Does the waste represented by this profile contain asbestos?.....
If yes..... ☐ friable ☐ non-friable☐ YES ☒ NOo. Does the waste represented by this profile contain benzene?.....
If yes, concentration _____ ppm☐ YES ☒ NO

Is the waste subject to the benzene waste operations NESHAP?.....

☐ YES ☒ NO

p. Is the waste subject to RCRA Subpart CC controls?.....

☐ YES ☒ NO

If no, does the waste meet the organic LDR Exemption?.....

☒ YES ☐ NO

If no, does the waste contain <500 ppmw volatile organic (VO)?.....

☒ YES ☐ NO

Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?.....

☐ YES ☒ NO

r. Does the waste contain debris? (list in Section B.1.j).....

☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 3 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: 110+☐ Bulk Liquid; Type/Size: _____☒ Drum; Type; Size: 85 GALLON OVER PACK☐ Other: _____b. Shipping Frequency: Units 3 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☒ YES ☐ NO



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs./kgs.): _____ e. Hazard Class/ID #: _____
f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, U.S., 4.1, UN 1325, PG
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) _____ ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) _____ ☐ YES ☐ NO
2. Is this a state hazardous waste? _____ ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? _____ ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 216 SITE # 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? _____ ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) _____ ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? _____ ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? _____ ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? _____ ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: [Signature] Title: PRINCIPAL ENV. SPECIALIST
Name (Type or Print): _____ Company Name: _____ Date: 11/1/94
☐ Check if additional information is attached. Indicate the number of attached pages _____

D. WM Management's Decision			FOR WM USE ONLY		
1.	Management Method <input type="checkbox"/> Landfill <input type="checkbox"/> Non-hazardous Solidification <input type="checkbox"/> Bioremediation <input type="checkbox"/> Incineration <input type="checkbox"/> Hazardous Stabilization <input type="checkbox"/> Other (Specify) _____				
2.	Proposed Ultimate Management Facility: _____				
3.	Precautions, Special Handling Procedures, or Limitation on Approval: _____				
4.	Waste Form _____	5.	Source _____	6.	System Type _____
Special Waste Decision: _____		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved			
Salesperson's Signature: _____		Date: _____			
Division Approval Signature (Optional): _____		Date: _____			
Special Waste Approvals Person Signature: _____		Date: _____			

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
→ WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol. Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
→ WS72606	Sulfide	40.0	126	10/19/00
WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
WS72608	+Cu	40.0	48.2	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	40.1	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	98.6	10/23/00
WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
→ WS72606	Sulfide	NA	77.0	10/23/00
WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
WS72608	+Cu	NA	82.4	10/23/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
→ WS72606	Sulfide	40.0	Not detected	10/19/00
WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
WS72608	+Cu	40.0	Not detected	10/20/00
WS72609	Partially/Slightly H2O sol. Resins&Solids	40.0	Not detected	10/20/00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	6.24	10/17/00
WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
→ WS72606	Sulfide	NA	7.75	10/17/00
WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
WS72608	+Cu	NA	4.00	10/17/00
WS72609	Partially/Slightly H2O sol. Resins&Solids	NA	7.92	10/17/00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	NA	6.03	10/17/00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	NA	7.18	10/17/00
WS72613	Oily Liquid	NA	8.49	10/17/00
WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extr

WST ID: WS72606

Client ID: Sulfide

TCLP Date: 10/24/00

Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		104	70-121	
Toluene-d8 (%)		104	81-117	
Bromofluorobenzene (%)		97	74-121	
Dilution Factor	1			

Waste Stream Technology, Inc.
8270 TCLP Semivolatile Organics
1311/8270

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/17/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extrac

WST ID: WS72606
Client ID: Sulfide
Extraction Date: 10/24/00
Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	100	Not detected		U
1,4-dichlorobenzene	100	Not detected		U
Total cresols(o,m & p)	300	850		
nitrobenzene	100	Not detected		U
hexachloroethane	100	Not detected		U
hexachlorobutadiene	100	Not detected		U
2,4,6-trichlorophenol	100	Not detected		U
2,4,5-trichlorophenol	100	Not detected		U
2,4-dinitrotoluene	100	Not detected		U
hexachlorobenzene	100	Not detected		U
pentachlorophenol	500	Not detected		U
2-Fluorophenol (%)		37	21- 100	
Phenol-d6 (%)		18	10- 94	
Nitrobenzene-d5 (%)		68	35- 114	
2-Fluorobiphenyl (%)		78	43- 116	
2,4,6-Tribromophenol (%)		84	10- 123	
Terphenyl-d14 (%)		77	33- 141	
Dilution Factor	10			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/17/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extra

WST ID: WS72606
Client ID: Sulfide
Extraction Date: 10/25/00
Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		78	60-150	
Decachlorobiphenyl (%)		66	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/17/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extract

WST ID: WS72606
Client ID: Sulfide
Extraction Date: 10/24/00
Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		109	10-127	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 10/17/00

WST ID: WS72606
Client ID: Sulfide
Digestion Date: 10/19/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/19/00	SW-846 6010
Barium by ICP	0.025	0.033	10/19/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/19/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/19/00	SW-846 6010
Copper by ICP	0.045	0.094	10/19/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/19/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/23/00	SW-846 7470
Nickel by ICP	0.025	0.027	10/19/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/19/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/19/00	SW-846 6010
Zinc by ICP	0.065	0.178	10/19/00	SW-846 6010

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Solid

WST ID: WS72606

Client ID: Sulfide

Extraction Date: 10/27/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.750	Not detected		U
aroclor 1221	0.600	Not detected		U
aroclor 1232	0.900	Not detected		U
aroclor 1242	0.450	Not detected		U
aroclor 1248	0.300	Not detected		U
aroclor 1254	0.150	Not detected		U
aroclor 1260	0.150	Not detected		U
Decachlorobiphenyl (%)		85	60- 150	
Tetrachloro-m-xylene (%)		95	60- 150	
Dilution Factor	15			

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following:
when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration. Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration. Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.

Daniel W. Vollmer
Daniel W. Vollmer
QA/QC Officer

Date 11/3/00

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPEService Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI **CN6879**
Renewal Date: 1 / 1

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EXHOS ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description

- a. Name of Waste: FLAMMABLE RESINS/SOLIDS
b. Process Generating Waste: DRUM EXCAVATION

DRUM # 13, 9, 10, 43, 47, 15, 11, 57

c. Color	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>6.11</u> %
----------	---	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTIVE SULFIDE</u>	<u>0-95 PPM</u>	<u>DRUM PARTS/DEBRIS</u>	<u>0-50%</u>
<u>FLASH POINT</u>	<u>86°F</u>	<u>SOLIDS</u>	<u>50-100%</u>
<u>BENZENE</u>	<u>0-46 PPM</u>	<u>SEE ATTACHED TCLP</u>	
<u>CRESOL</u>	<u>0-23 PPM</u>	<u>ANALYTICAL WS 72607</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

- k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

- l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NO
m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NO
n. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes..... ☐ friable ☐ non-friable
o. Does the waste represented by this profile contain benzene?..... ☒ YES ☐ NO
If yes, concentration 0.046 ppm
Is the waste subject to the benzene waste operations NESHA?..... ☐ YES ☒ NO
p. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NO
If no, does the waste meet the organic LDR Exemption?..... ☒ YES ☐ NO
If no, does the waste contain <500 ppmw volatile organic (VO)?..... ☒ YES ☐ NO
Volatile organic concentration _____ ppmw
q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NO
r. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 10 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: 3-110 +☒ Drum; Type; Size: 6-85 GALLON OVER THE☐ Bulk Liquid; Type/Size: _____☐ Other: _____

b. Shipping Frequency: Units

9Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☒ YES ☐ NO



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.;kgs.): _____ e. Hazard Class/ID #: 4.1
- f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, N.O.S., 4.1, UN 1325, PC
- g. Personal Protective Equipment Requirements: _____
- h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
- a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
- b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) ☐ YES ☐ NO
- c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
2. Is this a state hazardous waste? ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. WADCP 21E SITE # 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Moraw Title: PRINCIPAL ENV. SPEC.
Name (Type or Print): STEVE MORAW Company Name: OLIN CORPORATION Date: 11/1/01
☒ Check if additional information is attached. Indicate the number of attached pages 1

D. WM Management's Decision			FOR WM USE ONLY	
1.	Management Method <input type="checkbox"/> Landfill <input type="checkbox"/> Non-hazardous Solidification <input type="checkbox"/> Bioremediation <input type="checkbox"/> Incineration <input type="checkbox"/> Hazardous Stabilization <input type="checkbox"/> Other (Specify) _____			
2.	Proposed Ultimate Management Facility: _____			
3.	Precautions, Special Handling Procedures, or Limitation on Approval: _____			
4.	Waste Form _____	5. Source _____	6. System Type <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved	
Special Waste Decision: _____			Date: _____	
Salesperson's Signature: _____			Date: _____	
Division Approval Signature (Optional): _____			Date: _____	
Special Waste Approvals Person Signature: _____			Date: _____	

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol. Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
WS72606	Sulfide	40.0	126	10/19/00
→ WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
WS72608	+Cu	40.0	48.2	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	40.1	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	98.6	10/23/00
WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
WS72606	Sulfide	NA	77.0	10/23/00
→ WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
WS72608	+Cu	NA	82.4	10/23/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
WS72606	Sulfide	40.0	Not detected	10/19/00
→ WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
WS72608	+Cu	40.0	Not detected	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	Not detected	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	6.24	10/17/00
WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
WS72606	Sulfide	NA	7.75	10/17/00
→ WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
WS72608	+Cu	NA	4.00	10/17/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	7.92	10/17/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	6.03	10/17/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	7.18	10/17/00
WS72613	Oily Liquid	NA	8.49	10/17/00
WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extra

WST ID: WS72607

Client ID: Flammable Resins / Solids

TCLP Date: 10/24/00

Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	46		J
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		100	70-121	
Toluene-d8 (%)		100	81-117	
Bromofluorobenzene (%)		94	74-121	
Dilution Factor	1			

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/18/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72607

Client ID: Flammable Resins / Solids

Extraction Date: 10/24/00

Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	50.0	Not detected		U
1,4-dichlorobenzene	50.0	Not detected		U
Total cresols(o,m & p)	150	23		J
nitrobenzene	50.0	Not detected		U
hexachloroethane	50.0	Not detected		U
hexachlorobutadiene	50.0	Not detected		U
2,4,6-trichlorophenol	50.0	Not detected		U
2,4,5-trichlorophenol	50.0	Not detected		U
2,4-dinitrotoluene	50.0	Not detected		U
hexachlorobenzene	50.0	Not detected		U
pentachlorophenol	250	Not detected		U
2-Fluorophenol (%)		60	21- 100	
Phenol-d6 (%)		27	10- 94	
Nitrobenzene-d5 (%)		81	35- 114	
2-Fluorobiphenyl (%)		77	43- 116	
2,4,6-Tribromophenol (%)		97	10- 123	
Terphenyl-d14 (%)		99	33- 141	
Dilution Factor	5			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/18/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extract

WST ID: WS72607

lient ID: Flammable Resins / Solids

Extraction Date: 10/26/00

Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordan	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		101	60-150	
Decachlorobiphenyl (%)		80	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/18/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extract

WST ID: WS72607

Client ID: Flammable Resins / Solids

Extraction Date: 10/24/00

Date Analyzed: 10/26/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		43	10- 127	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275

Units: mg/L

Matrix: TCLP Extrac

TCLP Extraction Date: 10/18/00

WST ID: WS72607

Client ID: Flammable Resins / Solids

Digestion Date: 10/20/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	0.057	10/20/00	SW-846 6010
Barium by ICP	0.025	0.083	10/20/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/20/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/20/00	SW-846 6010
Copper by ICP	0.045	0.098	10/20/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/20/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/23/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/20/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/20/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/20/00	SW-846 6010
Zinc by ICP	0.065	0.097	10/20/00	SW-846 6010

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Solid

WST ID: WS72607

Client ID: Flammable Resins / Solids

Extraction Date: 10/27/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.750	Not detected		U
aroclor 1221	0.600	Not detected		U
aroclor 1232	0.900	Not detected		U
aroclor 1242	0.450	Not detected		U
aroclor 1248	0.300	Not detected		U
aroclor 1254	0.150	Not detected		U
aroclor 1260	0.150	Not detected		U
Decachlorobiphenyl (%)		93	60-150	
Tetrachloro-m-xylene (%)		81	60-150	
Dilution Factor	15			

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following:
when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration. Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration. Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.

Daniel W. Vollmer
Daniel W. Vollmer
QA/QC Officer

Date 11/3/00



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCA

Profile Number: WMI

CN6880

Renewal Date: / /

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EMOS ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01897 8. Generator USEPA/Federal ID #: MA0601463104
9. County: 10. State/Province ID #:
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description

a. Name of Waste: CYANIDE SOLIDS
b. Process Generating Waste: DRUM EXCAVATION

DRUM # 133, 156, 92, 41, 37, 42, 45, 29, 46, 51, 53, 76, 80, 83, 152, 56
33

c. Color	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>6.24</u> %
----------	---	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable
j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
FLASH POINT	98.6°F	DRUM PARTS/DEBRIS	0-50%.
CRESOL	0-113 PPH	SOLIDS	50-100%.
ZINC	0-0.644 PPM	SEE ATTACHED TCF	
		ANALYSIS WS 72604	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j).....
m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j).....
n. Does the waste represented by this profile contain asbestos?.....
If yes..... ☐ friable ☐ non-friable
o. Does the waste represented by this profile contain benzene?.....
If yes, concentration _____ ppm
Is the waste subject to the benzene waste operations NESHAP?.....
p. Is the waste subject to RCRA Subpart CC controls?.....
If no, does the waste meet the organic LDR Exemption?.....
If no, does the waste contain <500 ppmw volatile organic (VO)?.....
Volatile organic concentration _____ ppmw

☐ YES ☒ NO☐ YES ☒ NO☐ YES ☒ NO☐ YES ☒ NO☐ YES ☒ NO☐ YES ☒ NO☒ YES ☐ NO☒ YES ☐ NO

q. Does the waste contain any Class I or Class II ozone-depleting substances?.....
r. Does the waste contain debris? (list in Section B.1.j).....

☐ YES ☒ NO☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 18 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: 110+☒ Drum; Type; Size: 13-85 GALLON OVERPACK☐ Bulk Liquid; Type/Size: _____☐ Other: _____

b. Shipping Frequency: Units 17 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☒ YES ☐ NO



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.,kgs.): _____ e. Hazard Class/ID #: 4.1
f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, N.O.S., 4.1, UN 1325, PG II
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
2. Is this a state hazardous waste? ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 21E SITE # 3-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Morrow Title: PRINCIPAL ENV. SPECIALIST
Name (Type or Print): STEVE MORROW Company Name: OLIN CORPORATION Date: 11/5
☒ Check if additional information is attached. Indicate the number of attached pages 1

D. WM Management's Decision

FOR WM USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
Special Waste Decision ☐ Approved ☐ Disapprove
Salesperson's Signature: _____ Date: _____
Division Approval Signature (Optional): _____ Date: _____
Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
→ WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol. Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol. Resins & Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane & H2O sol. Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
WS72606	Sulfide	40.0	126	10/19/00
WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
WS72608	+Cu	40.0	48.2	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	40.1	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→ WS72604	Cyanide Solids	NA	98.6	10/23/00
WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
WS72606	Sulfide	NA	77.0	10/23/00
WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
WS72608	+Cu	NA	82.4	10/23/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.
Section 7.3.3.2 Reactive Cyanide
SW-846 9014

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→ WS72604	Cyanide Solids	40.0	Not detected	10/19/00
WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
WS72606	Sulfide	40.0	Not detected	10/19/00
WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
WS72608	+Cu	40.0	Not detected	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	Not detected	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→ WS72604	Cyanide Solids	NA	6.24	10/17/00
WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
WS72606	Sulfide	NA	7.75	10/17/00
WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
WS72608	+Cu	NA	4.00	10/17/00
WS72609	Partially/Slightly H2O sol. Resins&Solids	NA	7.92	10/17/00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	NA	6.03	10/17/00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	NA	7.18	10/17/00
WS72613	Oily Liquid	NA	8.49	10/17/00
WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extra

WST ID: WS72604
Client ID: Cyanide Solids
TCLP Date: 10/23/00
Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		101	70-121	
Toluene-d8 (%)		96	81-117	
Bromofluorobenzene (%)		84	74-121	
Dilution Factor	1			

Waste Stream Technology, Inc.**8270 TCLP Semivolatile Organics****1311/8270**

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/17/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72604

Client ID: Cyanide Solids

Extraction Date: 10/24/00

Date Analyzed: 10/24/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	113		
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		56	21-100	
Phenol-d6 (%)		43	10-94	
Nitrobenzene-d5 (%)		94	35-114	
2-Fluorobiphenyl (%)		86	43-116	
2,4,6-Tribromophenol (%)		57	10-123	
Terphenyl-d14 (%)		95	33-141	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/17/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extra

WST ID: WS72604
Client ID: Cyanide Solids
Extraction Date: 10/25/00
Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		35	60-150	#
Decachlorobiphenyl (%)		77	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/17/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extract

WST ID: WS72604
Client ID: Cyanide Solids
Extraction Date: 10/24/00
Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		82	10- 127	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 10/17/00

WST ID: WS72604
Client ID: Cyanide Solids
Digestion Date: 10/19/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/19/00	SW-846 6010
Barium by ICP	0.025	0.057	10/19/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/19/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/19/00	SW-846 6010
Copper by ICP	0.045	Not detected	10/19/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/19/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/23/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/19/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/19/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/19/00	SW-846 6010
Zinc by ICP	0.065	0.644	10/19/00	SW-846 6010

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Solid

WST ID: WS72604

Client ID: Cyanide Solids

Extraction Date: 10/27/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.750	Not detected		U
aroclor 1221	0.600	Not detected		U
aroclor 1232	0.900	Not detected		U
aroclor 1242	0.450	Not detected		U
aroclor 1248	0.300	Not detected		U
aroclor 1254	0.150	Not detected		U
aroclor 1260	0.150	Not detected		U
Decachlorobiphenyl (%)		85	60- 150	
Tetrachloro-m-xylene (%)		84	60- 150	

Dilution Factor 15

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following:
when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration. Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration. Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.

Daniel W. Vollmer
Daniel W. Vollmer
QA/QC Officer

Date 11/3/00

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI **CN6881**
Renewal Date: 1 / 1

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EAMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: CYANIDE & SULFIDE SOLIDS
b. Process Generating Waste: DRUM EXHAUSTION
DRUM # 135, 40, 25, 28, 34, 24

c. Color	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to 7.60 %
----------	---	---	---	---

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☐ Not applicable

j. Chemical Composition (List all constituents (including halogenated organics, debris, and UHC's) present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTIVE SULFIDES</u>	<u>0-360 PPM</u>	<u>DRUM PARTS/DEBRIS</u>	<u>0-50%</u>
<u>FLASH POINT</u>	<u>113 °F</u>	<u>SOLIDS</u>	<u>50-100%</u>
<u>CRESOL</u>	<u>0-110 PPM</u>	<u>SEE ATTACHED TCLP</u>	
<u>BINC</u>	<u>0-0.182 PPM</u>	<u>ANALYSIS WS 77605</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactivel. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NOm. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NOn. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes..... ☐ friable ☐ non-friableo. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO
If yes, concentration _____ ppmIs the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NOp. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NOIf no, does the waste meet the organic LDR Exemption?..... ☒ YES ☐ NOIf no, does the waste contain <500 ppmw volatile organic (VO)?..... ☒ YES ☐ NO
Volatile organic concentration _____ ppmwq. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NOr. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 6 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:
☐ Bulk Solid; Type/Size: 2-110 GALLON ☐ Bulk Liquid; Type/Size: _____
☒ Drum; Type; Size: 4-85 GALLON STEEL OVERPACK ☐ Other: _____b. Shipping Frequency: Units 6 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other _____c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☒ YES ☐ NO

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs./kgs.): _____ e. Hazard Class/ID #: _____
f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, N.O.S., 4.1, UN 1325, PG 2
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. _____ ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) _____ ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) _____ ☐ YES ☐ NO
2. Is this a state hazardous waste? _____ ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? _____ ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 21E SITE # 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? _____ ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) _____ ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? _____ ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? _____ ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? _____ ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Morrow Title: PRINCIPAL ENV. SPEC.
Name (Type or Print): STEVE MORROW Company Name: OLIN CORPORATION Date: 11/15/97
☒ Check if additional information is attached. Indicate the number of attached pages 14

D. WM Management's Decision**FOR WM USE ONLY**

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
Special Waste Decision: _____ ☐ Approved ☐ Disapproved
Salesperson's Signature: _____ Date: _____
Division Approval Signature (Optional): _____ Date: _____
Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.

302 Grote Street
Buffalo, NY 14207
(716) 876-5290

Analytical Data Report

Group Number: 2002-275

Site: Olin - Drum Phase

Field and Laboratory Information

WST ID	Client ID	Matrix	Date Sampled	Date Received	Time
WS72604	Cyanide Solids	Solid	10/16/00	10/16/00	11:00
→ WS72605	Cyanide & Sulfide Solids	Solid	10/16/00	10/16/00	11:00
WS72606	Sulfide	Solid	10/16/00	10/16/00	11:00
WS72607	Flammable Resins / Solids	Solid	10/16/00	10/16/00	11:00
WS72608	+Cu	Solid	10/16/00	10/16/00	11:00
WS72609	Partially/Slightly H2O sol.Resins&Solids	Solid	10/16/00	10/16/00	11:00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	Solid	10/16/00	10/16/00	11:00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	Solid	10/16/00	10/16/00	11:00
WS72613	Oily Liquid	Oil	10/16/00	10/16/00	11:00
WS72614	Mixed Resins & Solids	Solid	10/16/00	10/16/00	11:00
WS72615	Water Sol. Liquid	Aqueous	10/16/00	10/16/00	11:00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
→WS72605	Cyanide & Sulfide Solids	40.0	360	10/19/00
WS72606	Sulfide	40.0	126	10/19/00
WS72607	Flammable Resins / Solids	40.0	94.8	10/19/00
WS72608	+Cu	40.0	48.2	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	40.1	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	42.3	10/20/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	98.6	10/23/00
→ WS72605	Cyanide & Sulfide Solids	NA	113	10/23/00
WS72606	Sulfide	NA	77.0	10/23/00
WS72607	Flammable Resins / Solids	NA	86.0	10/23/00
WS72608	+Cu	NA	82.4	10/23/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	NA	>200	10/23/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	NA	100	10/23/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	NA	117	10/23/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	40.0	Not detected	10/19/00
→ WS72605	Cyanide & Sulfide Solids	40.0	Not detected	10/19/00
WS72606	Sulfide	40.0	Not detected	10/19/00
WS72607	Flammable Resins / Solids	40.0	Not detected	10/19/00
WS72608	+Cu	40.0	Not detected	10/20/00
WS72609	Partially/Slightly H2O sol.Resins&Solids	40.0	Not detected	10/20/00
WS72610	Slightly/Partially Hexane sol.Resins&Sol	40.0	Not detected	10/20/00
WS72611	Slightly/Partially Hexane&H2O sol.Resins	40.0	Not detected	10/20/00
WS72613	Oily Liquid	40.0	Not detected	10/20/00
WS72614	Mixed Resins & Solids	40.0	Not detected	10/20/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS72604	Cyanide Solids	NA	6.24	10/17/00
→ WS72605	Cyanide & Sulfide Solids	NA	7.60	10/17/00
WS72606	Sulfide	NA	7.75	10/17/00
WS72607	Flammable Resins / Solids	NA	6.11	10/17/00
WS72608	+Cu	NA	4.00	10/17/00
WS72609	Partially/Slightly H2O sol. Resins&Solids	NA	7.92	10/17/00
WS72610	Slightly/Partially Hexane sol. Resins&Sol	NA	6.03	10/17/00
WS72611	Slightly/Partially Hexane&H2O sol. Resins	NA	7.18	10/17/00
WS72613	Oily Liquid	NA	8.49	10/17/00
WS72614	Mixed Resins & Solids	NA	2.82	10/17/00

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extra

WST ID: WS72605
Client ID: Cyanide & Sulfide Solids
TCLP Date: 10/23/00
Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		100	70- 121	
Toluene-d8 (%)		95	81- 117	
Bromofluorobenzene (%)		101	74- 121	
Dilution Factor	1			

Waste Stream Technology, Inc.

8270 TCLP Semivolatile Organics

1311/8270

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

TCLP Extraction Date: 10/17/00

Group Number: 2002-275

Units: µg/L

Matrix: TCLP Extract

WST ID: WS72605

Client ID: Cyanide & Sulfide Solids

Extraction Date: 10/24/00

Date Analyzed: 10/24/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	110		
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		46	21-100	
Phenol-d6 (%)		30	10-94	
Nitrobenzene-d5 (%)		84	35-114	
2-Fluorobiphenyl (%)		79	43-116	
2,4,6-Tribromophenol (%)		70	10-123	
Terphenyl-d14 (%)		92	33-141	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/17/00

Group Number: 2002-275
Units: µg/L
Matrix: TCLP Extrac

WST ID: WS72605
Client ID: Cyanide & Sulfide Solids
Extraction Date: 10/25/00
Date Analyzed: 10/28/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		88	60-150	
Decachlorobiphenyl (%)		86	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00
TCLP Extraction Date: 10/17/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extract

WST ID: WS72605
Client ID: Cyanide & Sulfide Solids
Extraction Date: 10/24/00
Date Analyzed: 10/25/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		98	10-127	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 10/16/00
Date Received: 10/16/00

Group Number: 2002-275
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 10/17/00

WST ID: WS72605
Client ID: Cyanide & Sulfide Solids
Digestion Date: 10/19/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/19/00	SW-846 6010
Barium by ICP	0.025	0.100	10/19/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/19/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/19/00	SW-846 6010
Copper by ICP	0.045	Not detected	10/19/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/19/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/23/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/19/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/19/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/19/00	SW-846 6010
Zinc by ICP	0.065	0.182	10/19/00	SW-846 6010

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 10/16/00

Date Received: 10/16/00

Group Number: 2002-275

Units: mg/Kg

Matrix: Solid

WST ID: WS72605

Client ID: Cyanide & Sulfide Solids

Extraction Date: 10/27/00

Date Analyzed: 10/27/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.750	Not detected		U
aroclor 1221	0.600	Not detected		U
aroclor 1232	0.900	Not detected		U
aroclor 1242	0.450	Not detected		U
aroclor 1248	0.300	Not detected		U
aroclor 1254	0.150	Not detected		U
aroclor 1260	0.150	Not detected		U
Decachlorobiphenyl (%)		81	60- 150	
Tetrachloro-m-xylene (%)		84	60- 150	
Dilution Factor	15			

METHODOLOGIES

The specific methodologies employed in obtaining the analytical data reported are indicated on each of the result forms. The method numbers shown refer to the following U.S. Environmental Protection Agency Reference:

Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020, March 1979, Revised 1983, U.S. Environmental Monitoring and Support Laboratory, Cincinnati, Ohio 45268.

Federal Register, 40 CFR Part 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act. Revised July 1992.

Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. Third Edition, Revised December 1996, U.S. EPA SW-846.

Annual Book of ASTM Standards, Volume II. ASTM, 100 Harbor Drive, West Conshohocken, PA 19428-2959.

Standard Methods for the Examination of Water and Wastewater. (20th Edition). American Public Health Association, 1105 18th Street, NW, Washington, D.C. 20036.

ORGANIC DATA QUALIFIERS

- U - Indicates compound was analyzed for but not detected.
- J - Indicates an estimated value. This flag is used to qualify the following:
when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed; a compound is detected in the sample but the result is less than the method quantitation limit but greater than the statistically calculated laboratory method detection limit; the result for a compound is estimated due to the analysis of a sample beyond the USEPA defined holding time; the result for a compound is estimated due to a quality control sample result that is outside the laboratory quality control recovery limits.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B - This flag is used when the analyte is found in the associated blank as well as the sample.
- E - This flag identifies all compounds whose concentrations exceed the calibration range of the GC/MS instrument of that specific analysis.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- G - Matrix spike recovery is greater than the expected upper limit of analytical performance.
- L - Matrix spike recovery is less than the expected lower limit of analytical performance.
- # - Indicates that a surrogate recovery was found to be outside the expected limits of analytical performance.
- \$ - Indicates that the surrogate compound was diluted out. The sample had to be diluted to obtain analytical results and a recovery could not be calculated.
- (%) - Indicates that the compound is a surrogate and that the value reported for this compound is in percent recovery. The quality control recovery limits are indicated in the detection limit or QC limits column.

Case Narrative

The following comments and observations were made regarding the analysis of the composite samples from the Olin Drum Project site for Severson Environmental Services, Inc. corresponding to the Waste Stream Technology Inc. sample group number 2002-275 and sample numbers WS72604 through WS72615 which were composited on 10/18/00;

1.0 Sample Number WS72612 (Cyanide Liquid)

1.1 Only one Olin Drum Project sample was identified as being a cyanide containing liquid. The volume of liquid received for this sample, designated as Waste Stream Technology sample ID number WS72612 was insufficient to perform the required TCLP analyses. Since additional sample volume could not be obtained, all of the analyses to be performed on WS72612 were canceled.

2.0 Sample Number WS72613 (Oily Liquid)

2.1 Sample number WS72613 was an oily liquid that was not amenable to TCLP filtration. Subsequently, waste dilution analyses had to be performed on the sample. The results for sample number WS72613 are, therefore, reported on a weight per unit weight basis (i.e., $\mu\text{g/kg}$ or mg/kg basis).

3.0 Sample Number WS72615 (Water Soluble Liquid)

2.1 Sample number WS72615 was a water soluble liquid that was not amenable to TCLP filtration. Subsequently, the TCLP analyses were performed on the unfiltered sample. As such, the TCLP date was listed as NA on the TCLP result report sheets.

Daniel W. Vollmer
Daniel W. Vollmer
QA/QC Officer

Date 11/3/00



GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCA

Profile Number: WMI **CN6882**
Renewal Date: 1 / 1

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EAMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MARRON 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: WS 71652 COMPOSITE C
b. Process Generating Waste: DRUM REMOVAL
DRUM # 89, 84, 122, 146

c. Color <u>BLUE</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to <u>4.17</u> %
-------------------------	---	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☐ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTION SULFIDE</u>	<u>0 - 81 ppm</u>	<u>DRUM PARTS/DEBRIS</u>	<u>0 - 50 %</u>
<u>FLASH POINT</u>	<u>102 °F</u>	<u>SOLIDS</u>	<u>50 - 100 %</u>
<u>CHROME</u>	<u>0 - 0.104 ppm</u>	<u>SEE ATTACHED TCLP</u>	
<u>CROSSL</u>	<u>0 - 18 PPM</u>	<u>ANALYSIS WS 71652</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j)..... ☐ YES ☒ NO
m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j)..... ☐ YES ☒ NO
n. Does the waste represented by this profile contain asbestos?..... ☐ YES ☒ NO
If yes..... ☐ friable ☐ non-friable
o. Does the waste represented by this profile contain benzene?..... ☐ YES ☒ NO
If yes, concentration _____ ppm
Is the waste subject to the benzene waste operations NESHAP?..... ☐ YES ☒ NO
p. Is the waste subject to RCRA Subpart CC controls?..... ☐ YES ☒ NO
If no, does the waste meet the organic LDR Exemption?..... ☒ YES ☐ NO
If no, does the waste contain <500 ppmw volatile organic (VO)?..... ☒ YES ☐ NO
Volatile organic concentration _____ ppmw
q. Does the waste contain any Class I or Class II ozone-depleting substances?..... ☐ YES ☒ NO
r. Does the waste contain debris? (list in Section B.1.j)..... ☒ YES ☐ NO

2. Quantity of Waste
Estimated Annual Volume 4 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:
☐ Bulk Solid; Type/Size: _____ ☐ Bulk Liquid; Type/Size: _____
☒ Drum; Type; Size: 85 GALLON OVERPACK ☐ Other: _____
b. Shipping Frequency: Units 4 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other
c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f)..... ☒ YES ☐ NO

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.;kgs.): _____ e. Hazard Class/ID #: 4.1
f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, N.O.S., 4.1, UN1325, PG
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.j) ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
2. Is this a state hazardous waste? ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 215 SITE # 03-047
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.j) ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: [Signature] Title: PRINCIPAL ENV. SPECIALIST
Name (Type or Print): STEVE MORROW Company Name: GLW CORPORATION Date: 11/17
☒ Check if additional information is attached. Indicate the number of attached pages 11

D. WM Management's Decision**FOR WM USE ONLY**

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
Special Waste Decision: ☐ Approved ☐ Disapprove
Salesperson's Signature: _____ Date: _____
Division Approval Signature (Optional): _____ Date: _____
Special Waste Approvals Person Signature: _____ Date: _____

Waste Stream Technology, Inc.
Section 7.3.4.2 Reactive Sulfide
SW-846 9034

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00

Group Number: 2002-251
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71650	A - Composite	40.0	134	09/29/00
WS71651	B - Composite	40.0	105	09/29/00
→ WS71652	C - Composite	40.0	81.0	09/29/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71650	A - Composite	40.0	Not detected	09/29/00
WS71651	B - Composite	40.0	Not detected	09/29/00
→ WS71652	C - Composite	40.0	Not detected	09/29/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00

Group Number: 2002-251
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71650	A - Composite	NA	7.74	09/28/00
WS71651	B - Composite	NA	7.07	09/28/00
→ WS71652	C - Composite	NA	4.17	09/28/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
WS71650	A - Composite	NA	131	09/27/00
WS71651	B - Composite	NA	106	09/27/00
→ WS71652	C - Composite	NA	102	09/27/00

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Units: mg/Kg

Matrix: Solid

WST ID: WS71652

Client ID: C - Composite

Extraction Date: 10/05/00

Date Analyzed: 10/05/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	1.50	Not detected		U
aroclor 1221	1.20	Not detected		U
aroclor 1232	1.80	Not detected		U
aroclor 1242	0.900	Not detected		U
aroclor 1248	0.600	Not detected		U
aroclor 1254	0.300	Not detected		U
aroclor 1260	0.300	Not detected		U
Decachlorobiphenyl (%)		115	60-150	
Tetrachloro-m-xylene (%)		106	60-150	

Dilution Factor 30

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00

Group Number: 2002-251
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 09/27/00

WST ID: WS71652
Client ID: C - Composite
Digestion Date: 10/02/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/02/00	SW-846 6010
Barium by ICP	0.025	0.069	10/02/00	SW-846 6010
Cadmium by ICP	0.025	0.047	10/02/00	SW-846 6010
Chromium by ICP	0.025	0.104	10/02/00	SW-846 6010
Copper by ICP	0.045	0.101	10/02/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/02/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	09/28/00	SW-846 7470
Nickel by ICP	0.025	0.042	10/02/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/02/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/02/00	SW-846 6010
Zinc by ICP	0.065	1.26	10/02/00	SW-846 6010

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-251
Units: µg/L
Matrix: TCLP Extract

WST ID: WS71652
Client ID: C - Composite
Extraction Date: 10/02/00
Date Analyzed: 10/04/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		50	60-150	#
Decachlorobiphenyl (%)		83	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

TCLP Extraction Date: 09/27/00

Group Number: 2002-251

Units: mg/L

Matrix: TCLP Extract

WST ID: WS71652

Client ID: C - Composite

Extraction Date: 09/28/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		103	10- 127	
Dilution Factor	1			

aste Stream Technology, Inc.
8270 TCLP Semivolatile Organics
1311/8270

Group Number: 2002-251
 Units: µg/L

Group Number: 2002-251
 Units: µg/L
 Matrix: TCLP Extract

WST ID: WS71652
 Client ID: C - Composite
 Extraction Date: 09/26/00
 Date Analyzed: 09/29/00

QC Limits (%)	Qualifier
	U
	U
	U
	U
	U
	U
	U
	U
	U
	U
	U
21-100	
10-94	
35-114	
43-116	
10-123	
33-141	

Detection Limit	Result	QC Limits (%)	Qualifier
10	Not detected		U
10	Not detected		U
30	18 <i>CRESOLS</i>		J
10	Not detected		U
10	Not detected		U
10	Not detected		U
10	Not detected		U
10	Not detected		U
10	Not detected		U
10	Not detected		U
50	Not detected		U
	47	21-100	
	34	10-94	
	86	35-114	
	89	43-116	
	109	10-123	
	89	33-141	

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Units: µg/L

Matrix: TCLP Extract

WST ID: WS71652

Client ID: C - Composite

TCLP Date: 10/02/00

Date Analyzed: 10/03/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		98	70-121	
Toluene-d8 (%)		93	81-117	
Bromofluorobenzene (%)		97	74-121	

Dilution Factor 1

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI
Renewal Date: / /

CN6884

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 EXAMS ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01887 8. Generator USEPA/Federal ID #: MA0001403100
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MORROW 14. Customer Fax: 423-336-4166
15. Billing Address ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: WS 71650 COMPOSITE R
b. Process Generating Waste: DRUM EXCAVATION

DRUM # 12, 68, 77, 82, 105, 109, 113, 116, 124, 137, 138, 143, 145, 148,
167, 78, 162, 85, 69, 70

c. Color <u>BLACK</u>	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to 7.74%
--------------------------	--	---	---	--

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☐ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
FLASH POINT	131°F	DRUM PARTS/ DEBRIS	0 - 54%
REACTIVE SULFIDE	134 PPM	SOLIDS	54 - 100%
ZINC	0 - 6.57 PPM	SEE ATTACHED TCLP	
CHRSOL	0 - 44.5 PPB	ANALYSIS WS 71650	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.) ☐ YES ☒ NOm. Does the waste represented by this profile contain dioxins? (list in Section B.1.) ☐ YES ☒ NOn. Does the waste represented by this profile contain asbestos? ☐ YES ☒ NOIf yes, ☐ friable ☐ non-friableo. Does the waste represented by this profile contain benzene? ☐ YES ☒ NO

If yes, concentration _____ ppm

Is the waste subject to the benzene waste operations NESHAP? ☐ YES ☒ NOp. Is the waste subject to RCRA Subpart CC controls? ☐ YES ☒ NOIf no, does the waste meet the organic LDR Exemption? ☒ YES ☐ NOIf no, does the waste contain <500 ppmw volatile organic (VO)? ☒ YES ☐ NO

Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances? ☐ YES ☒ NOr. Does the waste contain debris? (list in Section B.1.) ☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 20 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping Information

a. Packaging:

☐ Bulk Solid; Type/Size: 4-110 GALLON☐ Bulk Liquid; Type/Size: _____☒ Drum; Type; Size: 16-85 GALLON OVERPACK☐ Other: _____b. Shipping Frequency: Units 20 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☒ YES ☐ NO

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.;kgs.): _____ e. Hazard Class/ID #: _____
 f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, N.O.S., 4.1, UN 1325, PC 6E
 g. Personal Protective Equipment Requirements: _____
 h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐ YES ☒ NO
 - a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
 - b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.) ☐ YES ☐ NO
 - c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) ☐ YES ☐ NO
2. Is this a state hazardous waste? ☐ YES ☒ NO
 Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒ YES ☐ NO
 If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MADEP 21E SITE 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.) ☐ YES ☒ NO
 - a. If yes, were the PCBs imported into the U.S.? ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve McKrow Title: PRINCIPAL ENV. SPECIALIST
 Name (Type or Print): STEVE MCKROW Company Name: OLIN CORPORATION Date: 11/15/2000
☒ Check if additional information is attached. Indicate the number of attached pages 11

D. WM Management's Decision

FOR WM USE ONLY

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
- Special Waste Decision: ☐ Approved ☐ Disapproved
- Salesperson's Signature: _____ Date: _____
- Division Approval Signature (Optional): _____ Date: _____
- Special Waste Approvals Person Signature: _____ Date: _____

A-3

COMPOSITE FORM

Composite ID: A 1115 71050

CLIENT ID	Grams
012	28
068	28
077	28
082	28
088	28
105	28
109	28
113	29
116	28
124	32
137	26
138	28
143	28
145	28
148	28
167	28
078	30
162	28
85	509 gms.
3LK (HARD) MAT	
RESIN LIKE MAT	

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→ WS71650	A - Composite	NA	131	09/27/00
WS71651	B - Composite	NA	106	09/27/00
WS71652	C - Composite	NA	102	09/27/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00

Group Number: 2002-251
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→ WS71650	A - Composite	NA -	7.74	09/28/00
WS71651	B - Composite	NA	7.07	09/28/00
WS71652	C - Composite	NA	4.17	09/28/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00

Group Number: 2002-251

Matrix: Solid

Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→ WS71650	A - Composite	40.0	Not detected	09/29/00
WS71651	B - Composite	40.0	Not detected	09/29/00
WS71652	C - Composite	40.0	Not detected	09/29/00

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00

Group Number: 2002-251
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→ WS71650	A - Composite	40.0	134	09/29/00
WS71651	B - Composite	40.0	105	09/29/00
WS71652	C - Composite	40.0	81.0	09/29/00

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Units: mg/Kg

Matrix: Solid

WST ID: WS71650

Client ID: A - Composite

Extraction Date: 09/28/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.05	Not detected		U
aroclor 1221	0.04	Not detected		U
aroclor 1232	0.06	Not detected		U
aroclor 1242	0.03	Not detected		U
aroclor 1248	0.02	Not detected		U
aroclor 1254	0.01	Not detected		U
aroclor 1260	0.01	Not detected		U
Decachlorobiphenyl (%)		69	60-150	
Tetrachloro-m-xylene (%)		87	60-150	

Dilution Factor 1

Waste Stream Technology, Inc.**8270 TCLP Semivolatile Organics****1311/8270**

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-251
Units: µg/L
Matrix: TCLP Extrac

WST ID: WS71650
Client ID: A - Composite
Extraction Date: 09/26/00
Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o,m & p)	30	44.5	TCLP 200	
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		48	21-100	
Phenol-d6 (%)		29	10-94	
Nitrobenzene-d5 (%)		94	35-114	
2-Fluorobiphenyl (%)		95	43-116	
2,4,6-Tribromophenol (%)		120	10-123	
Terphenyl-d14 (%)		91	33-141	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 09/22/00

Date Received: 09/25/00

Group Number: 2002-251

Units: µg/L

Matrix: TCLP Extract

WST ID: WS71650

Client ID: A - Composite

TCLP Date: 09/29/00

Date Analyzed: 10/02/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		91	70-121	
Toluene-d8 (%)		93	81-117	
Bromofluorobenzene (%)		95	74-121	
Dilution Factor	1			

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00

Group Number: 2002-251
Units: mg/L
Matrix: TCLP Extrac
TCLP Extraction Date: 09/27/00

WST ID: WS71650
Client ID: A - Composite
Digestion Date: 10/02/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/02/00	SW-846 6010
Barium by ICP	0.025	0.050	10/02/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Copper by ICP	0.045	Not detected	10/02/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/02/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	09/28/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/02/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/02/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/02/00	SW-846 6010
Zinc by ICP	0.065	6.57	10/02/00	SW-846 6010

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-251
Units: µg/L
Matrix: TCLP Extract

WST ID: WS71650
Client ID: A - Composite
Extraction Date: 10/02/00
Date Analyzed: 10/04/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		59	60-150	#
Decachlorobiphenyl (%)		94	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase
Date Sampled: 09/22/00
Date Received: 09/25/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-251
Units: mg/L
Matrix: TCLP Extract

WST ID: WS71650
Client ID: A - Composite
Extraction Date: 09/28/00
Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		91	10-127	
Dilution Factor	1			

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Service Agreement on File? ☒ YES ☐ NO
☐ Hazardous ☒ Non-Hazardous ☐ TSCAProfile Number: WMI **CN6886**
Renewal Date: / /

A. Waste Generator Information

1. Generator Name: OLIN CORPORATION 2. SIC Code: 9999
3. Facility Street Address: 51 GAMES ST 4. Phone: (978) 658-6121
5. Facility City: WILMINGTON 6. State/Province: MA
7. Zip/Postal Code: 01897 8. Generator USEPA/Federal ID #: MA0001403104
9. County: _____ 10. State/Province ID #: _____
11. Customer Name: OLIN CORPORATION 12. Customer Phone: (423) 336-4511
13. Customer Contact: STEVE MARROW 14. Customer Fax: 423 336-4166
15. Billing Address _____ ☒ Same as above

B. Waste Stream Information

1. Description
a. Name of Waste: WS 71715 COMPOSITE A
b. Process Generating Waste: DRUM REMOVAL
DRUM # 86, 87, 96, 101, 136, 166

c. Color	d. Strong odor (describe): <u>CHEMICAL</u>	e. Physical state @ 70°F <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Sludge <input type="checkbox"/> Other	f. Layers <input checked="" type="checkbox"/> Single Layer <input type="checkbox"/> Multi-layer	g. Free liquid range to % h. pH: Range to 4.46 %
----------	---	---	---	---

i. Liquid Flash Point: ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis):

Constituents	Concentration Range	Constituents	Concentration Range
<u>REACTIVE SULFIDE</u>	<u>118 PPM</u>	<u>DRUM PARTS/DEBRIS</u>	<u>0 - 50%</u>
<u>FLASH PAINT</u>	<u>127°F</u>	<u>SOLIDS</u>	<u>50 - 100%</u>
<u>CRACK</u>	<u>0-63 PPH</u>	<u>SEE ATTACHED TCLP</u>	
		<u>ANALYSIS WS 71715</u>	

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l. Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B.1.j).....

☐ YES ☒ NO

m. Does the waste represented by this profile contain dioxins? (list in Section B.1.j).....

☐ YES ☒ NOn. Does the waste represented by this profile contain asbestos?.....
If yes..... ☐ friable ☐ non-friable☐ YES ☒ NOo. Does the waste represented by this profile contain benzene?.....
If yes, concentration _____ ppm☐ YES ☒ NO

Is the waste subject to the benzene waste operations NESHAP?.....

☐ YES ☒ NO

p. Is the waste subject to RCRA Subpart CC controls?.....

☐ YES ☒ NO

If no, does the waste meet the organic LDR Exemption?.....

☒ YES ☐ NO

If no, does the waste contain <500 ppmw volatile organic (VO)?.....

☒ YES ☐ NO

Volatile organic concentration _____ ppmw

q. Does the waste contain any Class I or Class II ozone-depleting substances?.....

☐ YES ☒ NO

r. Does the waste contain debris? (list in Section B.1.j).....

☒ YES ☐ NO

2. Quantity of Waste

Estimated Annual Volume 6 ☐ Tons ☐ Yards ☒ Drums ☐ Other (specify) _____

3. Shipping information

a. Packaging:

☐ Bulk Solid; Type/Size: 3-110 GALLON☐ Bulk Liquid; Type/Size: _____☒ Drum; Type; Size: 3-85 GALLON OVERHEAD☐ Other: _____b. Shipping Frequency: Units 6 Per: ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other

c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f).....

☒ YES ☐ NO

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

- d. Reportable Quantity (lbs.;kgs.): _____ e. Hazard Class/ID #: 4.1
f. USDOT Shipping Name: FLAMMABLE SOLIDS, ORGANIC, N.O.S., 4.1, UN1325, PGT
g. Personal Protective Equipment Requirements: _____
h. Transporter/Transfer Station: _____

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. _____ ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B.1.) _____ ☐ YES ☐ NO
c. Does this waste contain debris? (if yes, list size and type in Chemical Composition - B.1.) _____ ☐ YES ☐ NO
2. Is this a state hazardous waste? _____ ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
3. Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? _____ ☒ YES ☐ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation. MDR 215 SITE # 03-0471
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? _____ ☐ YES ☒ NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B.1.) _____ ☐ YES ☒ NO
a. If yes, were the PCBs imported into the U.S.? _____ ☐ YES ☐ NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? _____ ☒ YES ☐ NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? _____ ☒ YES ☐ NO

☐ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Steve Monahan Title: PRINCIPAL ENV. SPECIALIST
Name (Type or Print): STEVE MONAHAN Company Name: GLIN CORPORATION Date: 11/15/2000
☒ Check if additional information is attached. Indicate the number of attached pages 11

D. WM Management's Decision**FOR WM USE ONLY**

1. Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
2. Proposed Ultimate Management Facility: _____
3. Precautions, Special Handling Procedures, or Limitation on Approval: _____
4. Waste Form _____ 5. Source _____ 6. System Type _____
- Special Waste Decision _____ ☐ Approved ☐ Disapproved
- Salesperson's Signature: _____ Date: _____
- Division Approval Signature (Optional): _____ Date: _____
- Special Waste Approvals Person Signature: _____ Date: _____

COMPOSITE FORM

Composite ID: A WS 71715

[illegible]

Waste Stream Technology, Inc.

Section 7.3.4.2 Reactive Sulfide

SW-846 9034

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→ WS71715	A - Composite	40.0	118	09/29/00
WS71716	B - Composite	40.0	81.8	09/29/00
WS71718	D - Composite	40.0	118	09/29/00
WS71719	E - Composite	40.0	40.9	09/29/00

Waste Stream Technology, Inc.

Section 7.3.3.2 Reactive Cyanide

SW-846 9014

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Matrix: Solid
Units: mg/Kg

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→ WS71715	A - Composite	40.0	Not detected	09/29/00
WS71716	B - Composite	40.0	Not detected	09/29/00
WS71718	D - Composite	40.0	Not detected	09/29/00
WS71719	E - Composite	40.0	Not detected	09/29/00

Waste Stream Technology, Inc.

pH in Solid
SW-846 9045C

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Matrix: Solid
Units: pH Units

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→ WS71715	A - Composite	NA	4.46	09/28/00
WS71716	B - Composite	NA	7.32	09/28/00
WS71718	D - Composite	NA	7.73	09/28/00
WS71719	E - Composite	NA	6.36	09/28/00

Waste Stream Technology, Inc.

Ignitability (flash point)

SW-846 1010

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Matrix: Solid

Units: ° F

WST ID	Client ID	Detection Limit	Result	Date Analyzed
→WS71715	A - Composite	NA	127	09/27/00
WS71716	B - Composite	NA	>200	09/27/00
WS71718	D - Composite	NA	>200	09/27/00
WS71719	E - Composite	NA	>200	09/27/00

Waste Stream Technology, Inc.

PCBs in Soil

SW-846 8082

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Units: mg/Kg

Matrix: Solid

WST ID: WS71715

Client ID: A - Composite

Extraction Date: 09/28/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
aroclor 1016	0.05	Not detected		U
aroclor 1221	0.04	Not detected		U
aroclor 1232	0.06	Not detected		U
aroclor 1242	0.03	Not detected		U
aroclor 1248	0.02	Not detected		U
aroclor 1254	0.01	Not detected		U
aroclor 1260	0.01	Not detected		U
Decachlorobiphenyl (%)		94	60-150	
Tetrachloro-m-xylene (%)		71	60-150	

Dilution Factor 1

Waste Stream Technology, Inc.
TCLP Metals Analysis Result Report

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00

Group Number: 2002-253
Units: mg/L
Matrix: TCLP Extract
TCLP Extraction Date: 09/27/00

WST ID: WS71715
Client ID: A - Composite
Digestion Date: 10/02/00

Analyte	Detection Limit	Result	Date Analyzed	Analysis Method
Arsenic by ICP	0.045	Not detected	10/02/00	SW-846 6010
Barium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Cadmium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Chromium by ICP	0.025	Not detected	10/02/00	SW-846 6010
Copper by ICP	0.045	0.277	10/02/00	SW-846 6010
Lead by ICP	0.075	Not detected	10/02/00	SW-846 6010
Mercury by Cold Vapor	0.001	Not detected	10/03/00	SW-846 7470
Nickel by ICP	0.025	Not detected	10/02/00	SW-846 6010
Selenium by ICP	0.095	Not detected	10/02/00	SW-846 6010
Silver by ICP	0.025	Not detected	10/02/00	SW-846 6010
Zinc by ICP	0.065	0.168	10/02/00	SW-846 6010

Waste Stream Technology, Inc.

Herbicides in TCLP Extract

1311/8150

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

TCLP Extraction Date: 09/27/00

Group Number: 2002-253

Units: mg/L

Matrix: TCLP Extra

WST ID: WS71715

Client ID: A - Composite

Extraction Date: 09/28/00

Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
2,4-D	0.02	Not detected		U
2,4,5-TP (Silvex)	0.02	Not detected		U
2,4-DCPAA (%)		123	10- 127	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Pesticide Analysis

1311/8081

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-253
Units: µg/L
Matrix: TCLP Extract

WST ID: WS71715
Client ID: A - Composite
Extraction Date: 10/02/00
Date Analyzed: 10/04/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
chlordane	0.350	Not detected		U
endrin	0.055	Not detected		U
gamma-BHC (Lindane)	0.016	Not detected		U
heptachlor	0.097	Not detected		U
heptachlor epoxide	0.042	Not detected		U
methoxychlor	0.031	Not detected		U
toxaphene	1.540	Not detected		U
Tetrachloro-m-xylene (%)		57	60-150	#
Decachlorobiphenyl (%)		69	60-150	
Dilution Factor	1			

Waste Stream Technology, Inc.**8270 TCLP Semivolatile Organics****1311/8270**

Site: Olin - Drum Phase
Date Sampled: 09/25/00
Date Received: 09/26/00
TCLP Extraction Date: 09/27/00

Group Number: 2002-253
Units: µg/L
Matrix: TCLP Extrac

WST ID: WS71715
Client ID: A - Composite
Extraction Date: 09/26/00
Date Analyzed: 09/29/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
pyridine	10	Not detected		U
1,4-dichlorobenzene	10	Not detected		U
Total cresols(o, m & p)	30	62.5		
nitrobenzene	10	Not detected		U
hexachloroethane	10	Not detected		U
hexachlorobutadiene	10	Not detected		U
2,4,6-trichlorophenol	10	Not detected		U
2,4,5-trichlorophenol	10	Not detected		U
2,4-dinitrotoluene	10	Not detected		U
hexachlorobenzene	10	Not detected		U
pentachlorophenol	50	Not detected		U
2-Fluorophenol (%)		47	21-100	
Phenol-d6 (%)		37	10-94	
Nitrobenzene-d5 (%)		97	35-114	
2-Fluorobiphenyl (%)		91	43-116	
2,4,6-Tribromophenol (%)		117	10-123	
Terphenyl-d14 (%)		91	33-141	
Dilution Factor	1			

Waste Stream Technology, Inc.

TCLP Volatile Organics Analysis

1311/8260B

Site: Olin - Drum Phase

Date Sampled: 09/25/00

Date Received: 09/26/00

Group Number: 2002-253

Units: µg/L

Matrix: TCLP Extract

WST ID: WS71715

Client ID: A - Composite

TCLP Date: 09/29/00

Date Analyzed: 10/02/00

Compound	Detection Limit	Result	QC Limits (%)	Qualifier
vinyl chloride	100	Not detected		U
1,1-dichloroethene	50	Not detected		U
chloroform	50	Not detected		U
2-butanone	1000	Not detected		U
1,2-dichloroethane	50	Not detected		U
carbon tetrachloride	50	Not detected		U
trichloroethene	50	Not detected		U
benzene	50	Not detected		U
tetrachloroethene	50	Not detected		U
chlorobenzene	50	Not detected		U
1,4-dichlorobenzene	50	Not detected		U
1,2-Dichloroethane-d4 (%)		95	70-121	
Toluene-d8 (%)		90	81-117	
Bromofluorobenzene (%)		97	74-121	
Dilution Factor	1			

Appendix E

Off-site Disposal Shipping Documents

SHIPPING DOCUMENTS – ROLL-OFFS (SOIL)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. **MA D 0 0 1 4 0 3 1 0 4** Manifest Doc. No. **1 0 2 7 4** 2. Page 1 of 1

3. Generator's Name and Mailing Address
OLIN CORPORATION
51 EAMES STREET
WILMINGTON, MA 01887
4. Generator's Phone (**978**) **658-6121** ATTN: **STEVE MORROW** A. Transporter's Phone **SAME**

5. Transporter 1 Company Name **WASTE MANAGEMENT N.E.E.T., INC.** 6. US EPA ID Number **CT D 9 8 3 8 9 6 3 4 1** B. Transporter's Phone **860-342-0667**

7. Transporter 2 Company Name 8. US EPA ID Number B. Transporter's Phone

9. Designated Facility Name and Site Address **CWM CHEMICAL SERVICES, LLC**
1550 BALMER ROAD
MODEL CITY, NY 14107 10. US EPA ID Number **NY D 0 4 9 8 3 6 6 7 9** C. Facility's Phone **716-754-8231**

11. Waste Shipping Name and Description 12. Containers No. Type 13. Total Quantity 14. Unit Wt/Vol

a. NON HAZARDOUS WASTE SOLID, NON DOT, NON RCRA REGULATED	001	CM	32000	P
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY PHONE # 860-342-0667 **FB # 104536**
APPROVAL # CN6859 **81535534**
WT EST. **SRH 572744**

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name **Don Cameron** Signature **Don Cameron** Month **10** Day **20** Year **00**

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name **Kevin Lewis** Signature **Kevin Lewis** Month **10** Day **30** Year **00**

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name Signature Month Day Year

19. Discrepancy Indication Space

actual recd 38300R

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name **Eden Carter** Signature **Eden Carter** Month **10** Day **31** Year **00**

GENERATOR
TRANSPORTER #1

LOGANO
TE MANAGEMENT COMPANY
800-272-3867

SITE ARRIVAL TIME: 12:00 PM DELIVER #:
SITE DEPARTURE TIME: 12:00 PM PICKUP #: 384
DRIVER: David Lewis RETURN #:
MANIFEST #: 10274

EL: 10/30/2000 TIME: 7:30 AM FB #: 111111 104536
SERV: T/O 1-30Y OT W/1-6 MIL 0:0 AM

PU LOC: 51 EAMES ST. BILL TO: SEVENSON ENVIRONMENTAL
51 EAMES ST. 2749 LOCKPORT ROAD
PH: WILMINGTON, MA 01887 PH: NIAGRA FALLS, NY 14305
716-284-0431

PAPERWORK: BRING MATERIAL: HZ TRANS PO #:
CONTAINER: 1-30B/T PRO RATE:
COMMENTS: REQUESTED BY: JEFF
DATE / TIME: 10/24/2000 17:28 PM

~~E.O.D. PENDING CREDIT APPROVAL~~
~~PO # E6729009~~

PICKUP LOCATION DIRECTIONS:

93N TO COMMERCE/ ATLANTIC WAY (EXIT 37C) AT END OF RAMP AT THE FI
LIGHT TAKE A RITE ONTO PRES. WAY. GO APPROX. 1 MI THRU AN INDUSTRI
PARK UNTIL DEAD END. TURN RITE ON WOBURN ST, GO APPROX. 1/2 MI TURN
LEFT ONTO EAMES ST. (OXBOW ST. IS TO THE RIGHT) GO 1/2 MI ON LEFT
OLIN CORP. (IMMED. AFTER BRIDGE) LOOK FOR OLIN SIGN AND SEVENSON S

CONSIGNEE: CWM MODEL CITY DISPOSAL FACILITY / 1550 BALMER ROAD
MODEL CITY, NY 14107-0200 Ph: 800-754-0455

DELIVERY LOCATION DIRECTIONS:

RTE 104 TO RTE 18N FOLLOW 5 MILES TAKE A RIGHT ONTO BALMER RD. FOL
TO GUARDHOUSE AT TRUCK/PLANT ENTRANCE.

COMMENTS:

CWM making no fee
10/24/2000
0239483

The undersigned acknowledges that he/she has instructed the driver of the delivering vehicle as to the place where said delivery shall be made on the premises.
The undersigned hereby releases the delivering company and driver from all damages and claims caused by the weight and/or height and/or width of the
delivering vehicle or container. Such damage shall include but not be limited to damage to sidewalks, lawns, driveways, trees, shrubs, buildings, structures, &

David W. Lewis

Signature

CUSTOMER

Date



WASTE MANAGEMENT, INC.
CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MAD001403104
51 EAMES ST
WILMINGTON MA 01887-3393

CERTIFICATE OF DISPOSAL FOR NON-HAZARDOUS WASTE

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 10/31/00 as described on Shipping Document number X000010274 Sequence number 01.

Profile Number: CN6859
CWM Tracking ID: 8153553401
CWM Unit #: 1*0
Disposal Date: 11/02/00

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 191902
11/03/00

For questions please call
our Customer Service Dept.
at (800) 843-3604

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Doc. No.

2. Page 1

of 1

M.A.D.0.0.1.4.0.3.1.0.4

1.0.2.7.3

3. Generator's Name and Mailing Address

OLIN CORPORATION
51 EAMES STREET
WILMINGTON, MA 01887

SAME

4. Generator's Phone (978) 658-6121

ATTN: STEVE MORROW

5. Transporter 1 Company Name

6. US EPA ID Number

A. Transporter's Phone

WASTE MANAGEMENT N.E.E.T., INC.

C.T.D.9.8.3.8.9.6.3.4.1

860-342-0667

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

C. Facility's Phone

CWM CHEMICAL SERVICES, LLC
1550 BALMER ROAD
MODEL CITY, NY 14107

N.Y.D.0.4.9.8.3.6.6.7.9

716-754-8231

11. Waste Shipping Name and Description

12. Containers

13. Total Quantity

14. Unit Wt/Vol

No.

Type

a. NON HAZARDOUS WASTE SOLID, NON DOT, NON RCRA REGULATED

001 C.M. 300.00 P

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

EMERGENCY PHONE # 860-342-0667
APPROVAL # CN6859

Weight is Estimated
FB # 104408

SR# 572504-4

81535472

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Signature

Month Day Year

Donald W. Cameron

Donald W. Cameron

10/17/00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

Neal Levin

Neal Levin

10/27/00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

Actual Recd 35880P

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

Eileen Carter

Eileen Carter

10/30/00

ORIGINAL - RETURN TO GENERATOR



LOGANO
WASTE MANAGEMENT COMPANY
800-272-3867

SITE ARRIVAL TIME: 0745 DELIVER #: 498
SITE DEPARTURE TIME: 0745 PICKUP #: 498
DRIVER: _____ RETURN #: _____
MANIFEST #: _____

10/27/2000 TIME: 0:00 AM
0:00 AM

FB #: 111111 104408

L:
ERV: T/O 1-30Y OT W/1-6 MIL

PU LOC: 51 EAMES ST.
51 EAMES ST.
WILMINGTON, MA 01887

BILL TO: SEVENSON ENVIRONMENTAL
2749 LOCKPORT ROAD
NIAGRA FALLS, NY 14305
PH: 716-284-0431

PH:

PAPERWORK: BRING
CONTAINER: 1-30B/T

MATERIAL: HZ TRANS
PRO RATE:

PO #:

COMMENTS:

REQUESTED BY: JEFF
DATE / TIME: 10/24/2000 17:28 PM

C.O.D. PENDING CREDIT APPROVAL
PO # E6729009

approval # CN6859

PICKUP LOCATION DIRECTIONS:

93N TO COMMERCE/ ATLANTIC WAY (EXIT 37C) AT END OF RAMP AT THE FIRST
LIGHT TAKE A RITE ONTO PRES. WAY. GO APPROX. 1 MI THRU AN INDUSTRIAL
PARK UNTIL DEAD END. TURN RITE ON WOBURN ST, GO APPROX. 1/2 MI TURN
LEFT ONTO EAMES ST. (OXBOW ST. IS TO THE RIGHT) GO 1/2 MI ON LEFT IS
OLIN CORP. (IMMED. AFTER BRIDGE) LDKK FOR OLIN SIGN AND SEVENSON SIGN

CONSIGNEE: CWM MODEL CITY DISPOSAL FACILITY / 1550 BALMER ROAD
MODEL CITY, NY 14107-0200 Ph: 800-754-0455

DELIVERY LOCATION DIRECTIONS:

RTE 104 TO RTE 18N FOLLOW 5 MILES TAKE A RIGHT ONTO BALMER RD. FOLL
TO GUARDHOUSE AT TRUCK/PLANT ENTRANCE.

COMMENTS:

The undersigned acknowledges that he/she has instructed the driver of the delivering vehicle as to the place where said delivery shall be made on the premises.
The undersigned hereby releases the delivering company and driver from all damages and claims caused by the weight and/or height and/or width of the
delivering vehicle or container. Such damage shall include but not be limited to damage to sidewalks, lawns, driveways, trees, shrubs, buildings, structures, etc.


Signature

CUSTOMER


Date



WASTE MANAGEMENT, INC.
CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MADO01403104
51 EAMES ST
WILMINGTON MA 01887-3393

CERTIFICATE OF DISPOSAL FOR NON-HAZARDOUS WASTE

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 10/30/00 as described on Shipping Document number 0000X10273 Sequence number 01.

Profile Number: CN6859
CWM Tracking ID: 8153547201
CWM Unit #: 1*0
Disposal Date: 11/02/00

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 191895
11/03/00

For questions please call
our Customer Service Dept.
at (800) 843-3604

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

M.A.D. 0-0-1-4-0-3-1-0-4

Manifest Doc. No.

1.0.2.7.2

2. Page 1

of 1

3. Generator's Name and Mailing Address

OLIN CORPORATION
51 EAMES STREET
WILMINGTON, MA 01887

SAME

4. Generator's Phone (978) 658-6121

ATTN: STEVE MORROW

5. Transporter 1 Company Name

WASTE MANAGEMENT N.E.E.T., INC.

6. US EPA ID Number

C.T.D. 9-8-3-8-9-6-3-4-1

A. Transporter's Phone

860-342-0667

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

CWM CHEMICAL SERVICES, LLC
1550 BALMER ROAD
MODEL CITY, NY 14107

10. US EPA ID Number

N.Y.D. 0-4-9-8-3-6-6-7-9

C. Facility's Phone

716-754-8231

11. Waste Shipping Name and Description

a. NON HAZARDOUS WASTE SOLID, NON DOT, NON RCRA REGULATED

12. Containers

No.

Type

13. Total
Quantity

14. Unit
Wt/Vol

001 CM 30000 P

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

EMERGENCY PHONE # 860-342-0667
APPROVAL # CN6859

Weight is Estimated
FB # 104480

SR# 572504-3

81535471

Continued driver, Kendall Knox

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

DONALD W. CAMERON

Signature

Donald W. Cameron

Month Day Year

10 27 00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

NEAL LEVINE

Signature

Neal Levine

Month Day Year

10 27 00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

actual recd 32300 P

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

ELLEN CARTER

Signature

Ellen Carter

Month Day Year

10 30 00

ORIGINAL - RETURN TO GENERATOR

LOGANO

WASTE MANAGEMENT COMPANY
800-272-3867

SITE DEPARTURE TIME: 0745

PICKUP #: 333

DRIVER: ALAN L

RETURN #:

MANIFEST #: 10272

10/27/2000

TIME: 0:00 AM
0:00 AM

FB #: 111111 104480

SERV: T/O 1-30Y OT W/1-6 MIL

PULOC: 51 EAMES ST.
51 EAMES ST.
WILMINGTON, MA 01887
PH:

BILL TO: SEVENSON ENVIRONMENTAL
2749 LOCKPORT ROAD
NIAGRA FALLS, NY 14305
PH: 716-284-0431

PAPERWORK: BRING
CONTAINER: 1-30B/T

MATERIAL: HZ TRANS
PRO RATE:

PO #:

COMMENTS:

REQUESTED BY: JEFF
DATE / TIME: 10/24/2000 17:28 PM

C.O.D. PENDING CREDIT APPROVAL
PO # E6729009

Approval # CN 6859

PICKUP LOCATION DIRECTIONS:

93N TO COMMERCE/ ATLANTIC WAY (EXIT 37C) AT END OF RAMP AT THE FIRST
LIGHT TAKE A RITE ONTO PRES. WAY. GO APPROX. 1 MI THRU AN INDUSTRIAL
PARK UNTIL DEAD END. TURN RITE ON WOBURN ST, GO APPROX. 1/2 MI TURN
LEFT ONTO EAMES ST. (OXBOW ST. IS TO THE RIGHT) GO 1/2 MI ON LEFT IS
OLIN CORP. (IMMED. AFTER BRIDGE) LOOK FOR OLIN SIGN AND SEVENSON SIGN.

CONSIGNEE: CWM MODEL CITY DISPOSAL FACILITY / 1550 BALMER ROAD

MODEL CITY, NY 14107-0200

Ph: 800-754-0455

DELIVERY LOCATION DIRECTIONS:

RTE 104 TO RTE 18N FOLLOW 5 MILES TAKE A RIGHT ONTO BALMER RD. FOLLO
TO GUARDHOUSE AT TRUCK/PLANT ENTRANCE.

COMMENTS:

The undersigned acknowledges that he/she has instructed the driver of the delivering vehicle as to the place where said delivery shall be made on the premises.
The undersigned hereby releases the delivering company and driver from all damages and claims caused by the weight and/or height and/or width of the
delivering vehicle or container. Such damage shall include but not be limited to damage to sidewalks, lawns, driveways, trees, shrubs, buildings, structures, etc.

Signature

CUSTOMER

Date



WASTE MANAGEMENT, INC.
CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MADO01403104
51 EAMES ST
WILMINGTON MA 01887-3393

CERTIFICATE OF DISPOSAL FOR NON-HAZARDOUS WASTE

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 10/30/00 as described on Shipping Document number 0000X10272 Sequence number 01.

Profile Number: CN6859
CWM Tracking ID: 8153547101
CWM Unit #: 1*0
Disposal Date: 11/02/00

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 191894
11/03/00

For questions please call
our Customer Service Dept.
at (800) 843-3604

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Doc. No.

2. Page 1

M.A.D.0.0.1.4.0.3.1.0.4

1.0.2.7.1

of 1

3. Generator's Name and Mailing Address

OLIN CORPORATION
51 EAMES STREET
WILMINGTON, MA 01887

SAME

4. Generator's Phone (978) 658-6121

ATTN: STEVE MORROW

5. Transporter 1 Company Name

6. US EPA ID Number

A. Transporter's Phone

WASTE MANAGEMENT N.E.E.T., INC.

C.T.D.9.8.3.8.9.6.3.4.1

860-342-0667

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

C. Facility's Phone

CWM CHEMICAL SERVICES, LLC
1550 BALMER ROAD
MODEL CITY, NY 14107

N.V.D.0.4.9.8.3.6.6.7.9

716-754-8231

11. Waste Shipping Name and Description

12. Containers

13. Total Quantity

14. Unit Wt/Vol

No.

Type

a. NON HAZARDOUS WASTE SOLID, NON DOT, NON RCRA REGULATED

001

C.M.

30000

P

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

EMERGENCY PHONE # 860-342-0667
APPROVAL # CN6859

Weight is estimated
FB # 104477

81535466

SRT# 572504-2

Comm. Driver Ted Stasik

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Signature

Month Day Year

DOUGLAS W. CAMERON

[Signature]

10/27/00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

JAN MAGDOZIK

[Signature]

10/27/00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

actual need 31620P

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

ELLEN CARTON

[Signature]

10/30/00

ORIGINAL - RETURN TO GENERATOR

LOGANO
WASTE MANAGEMENT COMPANY
800-272-3867

SITE DEPARTURE TIME: 7:45 AM PICKUP #: 293
DRIVER: John RETURN #:
MANIFEST #:

PU: 10/27/2000 TIME: 0:00 AM FB #: 111111 104477
DEL: 0:00 AM
SERV: T/O 1-30Y OT W/1-6 MIL

PU LOC: 51 EAMES ST. BILL TO: SEVENSON ENVIRONMENTAL
51 EAMES ST. 2749 LOCKPORT ROAD
WILMINGTON, MA 01887 NIAGRA FALLS, NY 14305
PH: PH: 716-284-0431

PAPERWORK: BRING MATERIAL: HZ TRANS PO #:
CONTAINER: 1-30B/T PRO RATE:
COMMENTS: REQUESTED BY: JEFF
DATE/TIME: 10/24/2000 17:28 PM

C.O.D. PENDING CREDIT APPROVAL
PO # E6729009

Approval # C N 6859

PICKUP LOCATION DIRECTIONS:

93N TO COMMERCE/ ATLANTIC WAY (EXIT 37C) AT END OF RAMP AT THE FIRST
LIGHT TAKE A RITE ONTO PRES. WAY. GO APPROX. 1 MI THRU AN INDUSTRIAL
PARK UNTIL DEAD END. TURN RITE ON WOBURN ST, GO APPROX. 1/2 MI TURN
LEFT ONTO EAMES ST. (OXBOW ST. IS TO THE RIGHT) GO 1/2 MI ON LEFT IS
OLIN CORP. (IMMED. AFTER BRIDGE) LOOK FOR OLIN SIGN AND SEVENSON SIGN

CONSIGNEE: CWM MODEL CITY DISPOSAL FACILITY / 1550 BALMER ROAD
MODEL CITY, NY 14107-0200 Ph: 800-754-0455

DELIVERY LOCATION DIRECTIONS:

RTE 104 TO RTE 18N FOLLOW 5 MILES TAKE A RIGHT ONTO BALMER RD. FOLL
TO GUARDHOUSE AT TRUCK/PLANT ENTRANCE.

COMMENTS:

The undersigned acknowledges that he/she has instructed the driver of the delivering vehicle as to the place where said delivery shall be made on the premises.
The undersigned hereby releases the delivering company and driver from all damages and claims caused by the weight and/or height and/or width of the
delivering vehicle or container. Such damage shall include but not be limited to damage to sidewalks, lawns, driveways, trees, shrubs, buildings, structures, etc.

Donald W. [Signature]
Signature

CUSTOMER

10/27/00
Date



WASTE MANAGEMENT, INC.
CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MAD001403104
51 EAMES ST
WILMINGTON MA 01887-3393

CERTIFICATE OF DISPOSAL FOR NON-HAZARDOUS WASTE

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 10/30/00 as described on Shipping Document number X000010271 Sequence number 01.

Profile Number: CN6859
CWM Tracking ID: 8153546601
CWM Unit #: 1*0
Disposal Date: 11/02/00

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 191893
11/03/00

For questions please call
our Customer Service Dept.
at (800) 843-3604

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

M A D 0 0 1 4 0 3 1 0 4

Manifest Doc. No.

1 0 2 7 0

2. Page 1

of 1

3. Generator's Name and Mailing Address

OLIN CORPORATION
51 EAMES STREET
WILMINGTON, MA 01887

SAME

4. Generator's Phone (978) 658-6121

ATTN: STEVE MORROW

5. Transporter 1 Company Name

WASTE MANAGEMENT N.E.E.T., INC.

6. US EPA ID Number

C T D 9 8 3 8 9 6 3 4 1

A. Transporter's Phone

860-342-0667

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

CWM CHEMICAL SERVICES, LLC
1550 BALMER ROAD
MODEL CITY, NY 14107

10. US EPA ID Number

N Y D 0 4 9 8 3 6 6 7 9

C. Facility's Phone

716-754-8231

11. Waste Shipping Name and Description

a. NON HAZARDOUS WASTE SOLID, NON DOT, NON RCRA REGULATED

12. Containers

No.

Type

13. Total Quantity

14. Unit Wt/Vol

001 CM 29500 P

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

EMERGENCY PHONE # 860-342-0667
APPROVAL # CN6859

81535473

FB # 104478

SR# 572501-1

Weight is estimate

Continued Driver - Dayton Backus

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

RONALD W CAMERON

Signature

Ronald W Cameron

Month Day Year

10 27 00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

JOHN MAGDZIK

Signature

John Magdzik

Month Day Year

10 27 00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

actual recd 34860P

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

ETLEBY CARTON

Signature

Etlevy Carton

Month Day Year

10 30 00

ORIGINAL - RETURN TO GENERATOR

LOGANO
A WASTE MANAGEMENT COMPANY
800-272-3867

SITE DEPARTURE TIME: 7:45 AM PICKUP #: 334
DRIVER: JAW RETURN #: _____
MANIFEST #: _____

PU: 10/27/2000 TIME: 0:00 AM FB #: 111111 104478
DEL: 0:00 AM
SERV: T/O 1-30Y OT W/1-6 MIL

PU LOC: 51 EAMES ST.
51 EAMES ST.
WILMINGTON, MA 01887
PH: _____
BILL TO: SEVENSON ENVIRONMENTAL
2749 LOCKPORT ROAD
NIAGRA FALLS, NY 14305
PH: 716-284-0431

PAPERWORK: BRING MATERIAL: HZ TRANS PO #:
CONTAINER: 1-30B/T PRO RATE:
COMMENTS: REQUESTED BY: JEFF
DATE / TIME: 10/24/2000 17:28 PM

C.O.D. PENDING CREDIT APPROVAL
PO # E6729009

Approval # CN 6859

PICKUP LOCATION DIRECTIONS:

93N TO COMMERCE/ ATLANTIC WAY (EXIT 37C) AT END OF RAMP AT THE FIRST
LIGHT TAKE A RITE ONTO PRES. WAY. GO APPROX. 1 MI THRU AN INDUSTRIAL
PARK UNTIL DEAD END. TURN RITE ON WOBURN ST, GO APPROX. 1/2 MI TURN
LEFT ONTO EAMES ST. (OXBOW ST. IS TO THE RIGHT) GO 1/2 MI ON LEFT IS
OLIN CORP. (IMMED. AFTER BRIDGE) LOOK FOR OLIN SIGN AND SEVENSON SIG.

CONSIGNEE: CWM MODEL CITY DISPOSAL FACILITY / 1550 BALMER ROAD
MODEL CITY, NY 14107-0200 Ph: 800-754-0455

DELIVERY LOCATION DIRECTIONS:

RTE 104 TO RTE 18N FOLLOW 5 MILES TAKE A RIGHT ONTO BALMER RD. FOLL
TO GUARDHOUSE AT TRUCK/PLANT ENTRANCE.

COMMENTS: _____

The undersigned acknowledges that he/she has instructed the driver of the delivering vehicle as to the place where said delivery shall be made on the premises.
The undersigned hereby releases the delivering company and driver from all damages and claims caused by the weight and/or height and/or width of the
delivering vehicle or container. Such damage shall include but not be limited to damage to sidewalks, lawns, driveways, trees, shrubs, buildings, structures, etc.

[Signature]
Signature

CUSTOMER

[Signature]
Date



WASTE MANAGEMENT, INC.
CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MAD001403104
51 EAMES ST
WILMINGTON MA 01887-3393

CERTIFICATE OF DISPOSAL FOR NON-HAZARDOUS WASTE

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 10/30/00 as described on Shipping Document number 0000X10270 Sequence number 01.

Profile Number: CN6859
CWM Tracking ID: 8153547301
CWM Unit #: 1*0
Disposal Date: 11/02/00

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 191896
11/03/00

For questions please call
our Customer Service Dept.
at (800) 843-3604

SHIPPING DOCUMENTS – OVERPACK DRUMS, HAZARDOUS

NYB9446517

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



CW1

Please type or print. Do not staple.

(Hazardous Waste Manifest 500)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. MA 000140310420012		Manifest Doc. No. 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.							
3. Generator's Name and Mailing Address OLIN CORPORATION 51 EAMES ST WILMINGTON MA 01807-3393 978 658-6121						A. NYB9446517									
4. Generator's Telephone Number ()						B. Generator's ID SAME									
5. Transporter 1 (Company Name) TONAWANDA TANK TRANS.				6. US EPA ID Number NYD097644801		C. State Transporter's ID 95043F NY									
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone 716 873-9708									
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						10. US EPA ID Number NYD049836679									
						E. State Transporter's ID									
						F. Transporter's Telephone ()									
						G. State Facility ID									
						H. Facility Telephone 716 754-8231									
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total		14. Unit					
						Number Type		Quantity		Wt/Vol		I. Waste No.			
						a. RQ, WASTE FLAMMABLE SOLIDS, TOXIC, ORGANIC, N.O.S., 4.1, UN2926, II, (D006)		1 4 DM		5872		P		EPA D006	
						b. RQ, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, III, (CADMIUM)		0 6 DM		3530		P		EPA D006	
						c. RQ, WASTE FLAMMABLE LIQUIDS, N.O.S., 3, UN1993, II, (D001, D018, D007)		0 2 DM		1395		P		EPA D001	
d. RQ, WASTE FLAMMABLE SOLIDS, TOXIC, ORGANIC, N.O.S., 4.1, UN2926, II, (D006)						0 7 DM		2690		P					
J. Additional Descriptions for Materials listed Above						K. Handling Codes for Wastes Listed Above									
a. CM6875 CRS110						b. <input checked="" type="checkbox"/>		c. <input type="checkbox"/>		d. <input type="checkbox"/>					
b. CM6873 D007, D018 CM6875						b. <input checked="" type="checkbox"/>		c. <input type="checkbox"/>		d. <input checked="" type="checkbox"/>					
15. Special Handling Instructions and Additional Information CHENTREC Emergency Response Number (800)424-9300 VMI Contract a) ER6#134 c) ER6#128 b) ER6#171 d) ER6#124															
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations. If I am large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a smaller generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.															
Printed/Typed Name Allan W Peirce				Signature <i>Allan W Peirce</i>				Mo. Day Year 02.01.01							
17. Transporter 1 Acknowledgement of Receipt of Materials															
Printed/Typed Name KEN NASCA				Signature <i>Ken Nasca</i>				Mo. Day Year 02.01.01							
18. Transporter 2 Acknowledgement of Receipt of Materials															
Printed/Typed Name				Signature				Mo. Day Year							
19. Discrepancy Indication Space															
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.															
Printed/Typed Name JONATHAN SCHEARER				Signature <i>Jonathan Schearer</i>				Mo. Day Year 02.02.01							

COPY 5—Generator—Mailed by TSD Facility

In case of emergency or spill immediately call the National Response Center (800) 424-9300 and the local emergency response center (911) or the local fire department.



WASTE MANAGEMENT, INC.

CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MAD001403104
51 EAMES ST
WILMINGTON MA 01887-3393

CONFIRMATION OF DESTRUCTION

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 02/02/01 as described on Hazardous Waste Manifest number NYB9446517 Sequence number 04.

Profile Number: CN6875
CWM Tracking ID: 8153958004
CWM Unit #: 1*0 thru 7*0
Disposal Date: 03/02/01

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 200182
03/22/01

For questions please call
our Customer Service Dept.
at (800) 843-3604



WASTE MANAGEMENT, INC.

CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MAD001403104
51 EAMES ST
WILMINGTON MA 01887-3393

CONFIRMATION OF DESTRUCTION

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 02/02/01 as described on Hazardous Waste Manifest number NYB9446517 Sequence number 02.

Profile Number: CK5110
CWM Tracking ID: 8153958002
CWM Unit #: 1*0 thru 6*0
Disposal Date: 03/25/01

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 202182
04/12/01

For questions please call
our Customer Service Dept.
at (800) 843-3604



WASTE MANAGEMENT, INC.
CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MAD001403104
51 EAMES ST
WILMINGTON MA 01887-3393

CONFIRMATION OF DESTRUCTION

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 02/02/01 as described on Hazardous Waste Manifest number NYB9446517 Sequence number 01.

Profile Number: CN6876
CWM Tracking ID: 8153958001
CWM Unit #: 1*0 thru 14*0
Disposal Date: 03/02/01

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 200181
03/22/01

For questions please call
our Customer Service Dept.
at (800) 843-3604

MAR 2

SHIPPING DOCUMENTS – OVERPACK DRUMS, NON-HAZARDOUS



HAZARDOUS WASTE MANIFEST

(As Required By The Alabama Department of Environmental Management)

0487

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. DMB No. 2050-0039. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address OLIN CORPORATION 51 EAMES ST WINNISTON, AL 36897-0090				4. Generator's Phone (972) 634-8100		A. State Manifest Document Number CWMA 914567		B. State Generator's ID	
5. Transporter 1 Company Name CHEMICAL WASTE MANAGEMENT, INC.				6. US EPA ID Number AL0000622464		C. State Transporter's ID 5906114		D. Transporter's Phone 205 652 7200	
7. Transporter 2 Company Name				8. US EPA ID Number		E. State Transporter's ID		F. Transporter's Phone	
9. Designated Facility Name and Site Address CHEMICAL WASTE MANAGEMENT, INC. Emelle Facility Alabama Highway 17 at Mile Marker 163 Emelle, Alabama 35459				10. US EPA ID Number AL0000622464		G. State Facility's ID		H. Facility's Phone 205/652-9721	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. NON-REGULATED MATERIAL PER 40 & 49 CFR						No.	Type		
Disposal Approval # _____ CWM Profile # CK5115						0100	1	000090	
b. NON-REGULATED MATERIAL PER 40 & 49 CFR						058		28417	
Disposal Approval # _____ CWM Profile # CK5115						0450	1	000090	P
c. NON-REGULATED MATERIAL PER 40 & 49 CFR						058		28417	
Disposal Approval # _____ CWM Profile # CK5115						0450	1	000090	P
d.									
Disposal Approval # _____ CWM Profile # _____									
J. Additional Descriptions for Materials Listed Above						K. Handling Codes for Wastes Listed Above			
a. CK5115 AWP						a. N/A			
b. CK5115						c. ST			
c. CK5115 AWP						b. L			
State of Generation _____						d.			
15. Special Handling Instructions and Additional Information									
Purchase Order # _____									
Work Order # _____ EMERGENCY CONTACT: (500) 424-3000									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name Allen W. Prince				Signature Allen W. Prince		Month Day Year 01-18-91			
17. Transporter 1 Acknowledgment of Receipt of Materials									
Printed/Typed Name Daniel W. Rogers				Signature Daniel W. Rogers		Month Day Year 01-14-91			
18. Transporter 2 Acknowledgment of Receipt of Materials									
Printed/Typed Name				Signature		Month Day Year			
19. Discrepancy Indication Space Some of the materials are covered by other manifests.									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.									
Printed/Typed Name Allen W. Prince				Signature Allen W. Prince		Month Day Year 01-18-91			



Waste Management, Inc.
Emelle Facility
P.O. Box 55
Emelle, Alabama 35459-0055
(205)652-9721

OLIN CORPORATION
51 EAMES STREET

WILMINGTON, MA 01887-3393

Site Information:

OLIN CORPORATION
51 EAMES STREET

WILMINGTON, MA 01887-3393

ACKNOWLEDGEMENT OF RECEIPT OF WASTE SHIPMENT

Generator Name: OLIN CORPORATION

Enclosed is/are your Generator Number Two copy / copies for Alabama Manifest Numbers:

CWMA-0000914567

This copy is to acknowledge that Chemical Waste Management, Inc., of Emelle, Alabama has received your shipment. As a requirement of 40 CFR 264.12 (b), this letter serves to inform you that this facility has the proper permits and will accept your shipment upon completion of waste analysis procedures specified in the facility's Waste Analysis Plan and as determined in the approval waste profile submitted for this/these wastes.

As of September 26, 1997, Chemical Waste Management, Inc., Emelle Alabama (ALD000622464) is operating under a AHWMA Permit, issued by the Alabama Department of Environmental Management. (RCRA)

Dorothy Oliver *DK*
Recordkeeping and Reporting Supervisor

May 01, 2001



Waste Management, Inc.
Emelle Facility
P.O. Box 55
Emelle, Alabama 35459-0055
(205)652-9721

OLIN CORPORATION
51 EAMES STREET

WILMINGTON, MA 01887-3393

Site Information:

OLIN CORPORATION
51 EAMES STREET

WILMINGTON, MA 01887-3393

ACKNOWLEDGEMENT OF RECEIPT OF WASTE SHIPMENT

Generator Name: OLIN CORPORATION

Enclosed is/are your Generator Number Two copy / copies for Alabama Manifest Numbers:

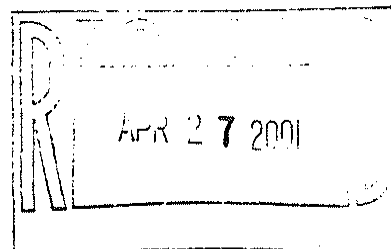
CWMA-0000914566

This copy is to acknowledge that Chemical Waste Management, Inc., of Emelle, Alabama has received your shipment. As a requirement of 40 CFR 264.12 (b), this letter serves to inform you that this facility has the proper permits and will accept your shipment upon completion of waste analysis procedures specified in the facility's Waste Analysis Plan and as determined in the approval waste profile submitted for this/these wastes.

As of September 26, 1997, Chemical Waste Management, Inc., Emelle Alabama (ALD000622464) is operating under a AHWMA Permit, issued by the Alabama Department of Environmental Management. (RCRA)

Dorothy Oliver */dk*
Recordkeeping and Reporting Supervisor

April 25, 2001





PICK UP

DELIVERY

S
H
I
P
P
E
R

C
O
N
S
I
G
N
E
E

NAME
STREET
CITY STATE ZIP CODE
CONTACT NAME PHONE
SCHEDULED TIME

NAME
STREET
CITY STATE ZIP CODE
CONTACT NAME PHONE

ADDITIONAL INFORMATION

Pursuant to 6NYCRR 372.2 (b) (2) (ii) HazMat certifies that it is authorized to deliver this shipment of manifested waste to the TSDF listed on this Bill of Lading

ADDITIONAL INFORMATION

PURCHASE ORDER NO.

WORK ORDER NUMBER

MANIFEST NUMBER

H.M. NUMBER

LOAD NUMBER

TRACTOR

TRAILER

ROLL OFF BOX

DRIVER NUMBER

DRIVER'S NAME

EQUIPMENT

MATERIAL DESCRIPTION / MANIFEST NUMBER

QUANTITY

EQUIPMENT TYPE
UNIT# DROPPED
UNIT# PICKED UP
CONDITION REPORT

PICK UP

DELIVERY

PICK UP DATE
ARRIVAL TIME AM PM RELEASE TIME AM PM
DAY #2 DATE
ARRIVAL TIME AM PM RELEASE TIME AM PM

DRIVER DAY #1 DATE
ARRIVAL TIME AM PM RELEASE TIME AM PM
DAY #2 DATE ARRIVAL TIME AM PM RELEASE TIME AM PM
DAY #3 DATE ARRIVAL TIME AM PM RELEASE TIME AM PM

TRAILER EMPTY UPON ARRIVAL ☐ YES
(if not, explain below—)
DIP MEASUREMENT (Tankers Only) INCHES
COMMENTS: (EXPLAIN ALL DELAYS)

TRAILER CLEAN AND EMPTY UPON DEPARTURE ☐ YES ☐ NO
(if not, explain below—)
COMMENTS: (Explain all delays or discrepancies)

HAZMAT MATERIALS USED (ex. overpacks, etc.): ☐ YES ☐ NO
IF YES EXPLAIN:
I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.

IF YES EXPLAIN:
I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.

SHIPPER'S SIGNATURE

Date

CONSIGNEE'S SIGNATURE

Date



4 / 26 / 11

PICK UP

DELIVERY

SHIPPER	NAME	CONSIGNEE	NAME
	STREET		STREET
	CITY STATE ZIP CODE		CITY STATE ZIP CODE
	CONTACT NAME PHONE		CONTACT NAME PHONE
	SCHEDULED TIME		

ADDITIONAL INFORMATION

Pursuant to 6NYCRR 372.2 (b) (2) (ii) HazMat certifies that it is authorized to deliver this shipment of manifested waste to the TSDF listed on this Bill of Lading

ADDITIONAL INFORMATION

PURCHASE ORDER NO.

WRK ORDER NUMBER

MANIFEST NUMBER

H.M. NUMBER

LOAD NUMBER

TRACTOR

TRAILER

ROLL OFF BOX

DRIVER NUMBER

DRIVER'S NAME

EQUIPMENT

MATERIAL DESCRIPTION / MANIFEST NUMBER

QUANTITY

EQUIPMENT TYPE

UNIT# DROPPED

UNIT# PICKED UP

CONDITION REPORT

PICK UP

DELIVERY

PICK UP DATE

DRIVER DAY #1 DATE

ARRIVAL TIME AM PM RELEASE TIME AM PM

ARRIVAL TIME AM PM RELEASE TIME AM PM

DAY #2 DATE

DAY #2 DATE ARRIVAL TIME AM PM RELEASE TIME AM PM

ARRIVAL TIME AM PM RELEASE TIME AM PM

DAY #3 DATE ARRIVAL TIME AM PM RELEASE TIME AM PM

TRAILER EMPTY UPON ARRIVAL ☐ YES

TRAILER CLEAN AND EMPTY UPON DEPARTURE ☐ YES ☐ NO

(If not, explain below—)

(if not, explain below—)

DIP MEASUREMENT (Tankers Only) INCHES

COMMENTS: (EXPLAIN ALL DELAYS)

COMMENTS: (Explain all delays or discrepancies)

HAZMAT MATERIALS USED (ex. overpacks, etc.): ☐ YES ☐ NO

IF YES EXPLAIN:

IF YES EXPLAIN:

THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.

I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.

SHIPPER'S SIGNATURE

Date

CONSIGNEE'S SIGNATURE

Date



HAZARDOUS WASTE MANIFEST

(As Required By The Alabama Department of Environmental Management)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address CLIN CORPORATION 51 GAMES ST WILMINGTON, MA 01897-1390				A. State Manifest Document Number CWMA 914566		
4. Generator's Phone (978) 258-6101				B. State Generator's ID		
5. Transporter 1 Company Name PACIFIC WASTE		6. US EPA ID Number		C. State Transporter's ID		
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone		
9. Designated Facility Name and Site Address CHEMICAL WASTE MANAGEMENT, INC. Emelle Facility Alabama Highway 17 at Mile Marker 163 Emelle, Alabama 35459		10. US EPA ID Number		E. State Transporter's ID		
				F. Transporter's Phone		
				G. State Facility's ID		
				H. Facility's Phone 205/652-9721		
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)				12. Containers	13. Total Quantity	14. Unit Wt/Vol
				No.	Type	Waste No.
a. NON-REGULATED MATERIAL PER 40 CFR 172.101						
Disposal Approval # CWM Profile #						
b. NON-REGULATED MATERIAL PER 40 CFR 172.101						
Disposal Approval # CWM Profile #						
c. NON-REGULATED MATERIAL PER 40 CFR 172.101						
Disposal Approval # CWM Profile #						
d.						
Disposal Approval # CWM Profile #						
J. Additional Descriptions for Materials Listed Above				K. Handling Codes for Wastes Listed Above		
a. CK5115				a. L		
b. CK5115				c. ST		
c. CN6872				b. L		
State of Generation				d.		
15. Special Handling Instructions and Additional Information						
Purchase Order #						
Work Order # EMERGENCY CONTACT: (800) 424-3330						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.						
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name				Signature		Month Day Year
Allen W. Pearce				Allen W. Pearce		07/2/91
17. Transporter 1 Acknowledgement of Receipt of Materials						
Printed/Typed Name				Signature		Month Day Year
Mike Wright				Mike Wright		07/2/91
18. Transporter 2 Acknowledgement of Receipt of Materials						
Printed/Typed Name				Signature		Month Day Year
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.						
Printed/Typed Name				Signature		Month Day Year
John				John		07/2/91

SHIPPING DOCUMENTS – METAL DEBRIS

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

M A D 0 0 1 4 0 3 1 0 4

Manifest Doc. No.

1 1 0 4 0

2. Page 1

of 1

3. Generator's Name and Mailing Address

OLIN CORPORATION
51 EAMES STREET
WILMINGTON, MA 01887

SAME

4. Generator's Phone (978) 658-6121

ATTN: STEVE MORROW

5. Transporter 1 Company Name

WASTE MANAGEMENT N.E.E.T., INC.

6. US EPA ID Number

C T D 9 8 3 8 9 6 3 4 1

A. Transporter's Phone

860-342-0667

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
CWM CHEMICAL SERVICES, LLC
1550 BALMER ROAD
MODEL CITY, NY 14107

10. US EPA ID Number

N Y D 0 4 9 8 3 6 6 7 9

C. Facility's Phone

716-754-8231

11. Waste Shipping Name and Description

a. NON HAZARDOUS WASTE SOLID, NON DOT, NON RCRA REGULATED

12. Containers

No.

Type

13. Total Quantity

14. Unit Wt/Vol

001 D T EXM 40.000

P

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

L

15. Special Handling Instructions and Additional Information

EMERGENCY PHONE # 860-342-0667
APPROVAL # CN6859

FB # 104850

81535927

WT EST

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Allan W Pearce

Signature

Allan W Pearce

Month Day Year

11 06 00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

Kevin Hewitt

Signature

Kevin Hewitt

Month Day Year

11 10 00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

actual recd 40440P

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

ALLAN CARTER

Signature

ALLAN CARTER

Month Day Year

11 02 00

TRANSPORTER #1



WASTE MANAGEMENT, INC.
CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MAD001403104
51 EAMES ST
WILMINGTON MA 01887-3393

CERTIFICATE OF DISPOSAL FOR NON-HAZARDOUS WASTE

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 11/07/00 as described on Shipping Document number 0000011040 Sequence number 01.

Profile Number: CN6859
CWM Tracking ID: 8153592701
CWM Unit #: 1*0
Disposal Date: 11/07/00

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 192298
11/08/00

For questions please call
our Customer Service Dept.
at (800) 843-3604

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Doc. No.

2. Page 1

of 1

M A D 0 0 1 4 0 3 1 0 4

1 1 0 4 1

3. Generator's Name and Mailing Address

OLIN CORPORATION
51 EAMES STREET
WILMINGTON, MA 01887

SAME

4. Generator's Phone (978)

658-6121

ATTN: STEVE MORROW

5. Transporter 1 Company Name

6. US EPA ID Number

A. Transporter's Phone

WASTE MANAGEMENT N.E.E.T., INC.

C T D 9 8 3 8 9 6 3 4 1

860-342-0667

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

CWM CHEMICAL SERVICES, LLC
1550 BALMER ROAD
MODEL CITY, NY 14107

10. US EPA ID Number

N.Y.D.0.4.9.8.3.6.6.7.9

C. Facility's Phone

716-754-8231

11. Waste Shipping Name and Description

12. Containers
No. Type

13. Total
Quantity

14. Unit
WT/Vol

a. NON HAZARDOUS WASTE SOLID, NON DOT, NON RCRA REGULATED

001 D T EXM 40000 P

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

EMERGENCY PHONE # 860-342-0667
APPROVAL # CN6859

FB # 104851

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Allan W Pearce

Signature

Allan W Pearce

Month Day Year
11 06 00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

VED Lukaszik

Signature

VED Lukaszik

Month Day Year
11 06 00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Allan W Pearce

Signature

Allan W Pearce

Month Day Year
11 06 00

ORIGINAL - RETURN TO GENERATOR



WASTE MANAGEMENT, INC.
CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MAD001403104
51 EAMES ST
WILMINGTON MA 01887-3393

CERTIFICATE OF DISPOSAL FOR NON-HAZARDOUS WASTE

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 11/07/00 as described on Shipping Document number 0000011041 Sequence number 01.

Profile Number: CN6859
CWM Tracking ID: 8153592101
CWM Unit #: 1*0
Disposal Date: 11/07/00

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 192296
11/08/00

For questions please call
our Customer Service Dept.
at (800) 843-3604

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Doc. No.

2. Page 1

of 1

M A D 0 0 1 4 0 3 1 0 4 1 1 0 2 0

3. Generator's Name and Mailing Address

OLIN CORPORATION
51 EAMES STREET
WILMINGTON, MA 01887

SAME

4. Generator's Phone (978) 658-6121

ATTN: STEVE MORROW

5. Transporter 1 Company Name

6. US EPA ID Number

A. Transporter's Phone

WASTE MANAGEMENT N.E.E.T., INC.

C.T.D. 9 8 3 8 9 6 3 4 1

860-342-0667

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

10. US EPA ID Number

C. Facility's Phone

CWM CHEMICAL SERVICES, LLC
1550 BALMER ROAD
MODEL CITY, NY 14107

N.Y.D. 0 4 9 8 3 6 6 7 9

716-754-8231

11. Waste Shipping Name and Description

12. Containers

No. Type

13. Total
Quantity

14. Unit
Wt/Vol

a. NON HAZARDOUS WASTE SOLID, NON DOT, NON RCRA REGULATED

20.1 D.T. 250.00 P

b.

c.

d.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

L

15. Special Handling Instructions and Additional Information

EMERGENCY PHONE # 860-342-0667

APPROVAL # CN6859

FB # 104642

Weight is Estimated

81535762

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Allen W Peirce

Signature

Allen W Peirce

Month Day Year

11/02/00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

NEAL levine

Signature

[Signature]

Month Day Year

11/10/00

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

Actual Recd 23220P

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

EILEEN CARTON

Signature

Eileen Carton

Month Day Year

11/03/00

ORIGINAL - RETURN TO GENERATOR



WASTE MANAGEMENT, INC.
CWM Chemical Services, L.L.C.
1550 Balmer Rd.
P.O. Box 200
Model City, N.Y. 14107
716/754-8231

Federal EPA ID: NYD049836679

OLIN CORPORATION
ATTN: ENVIRONMENTAL COMPLIANCE
MAD001403104
51 EAMES ST
WILMINGTON MA 01887-3393

CERTIFICATE OF DISPOSAL FOR NON-HAZARDOUS WASTE

CWM CHEMICAL SERVICES, L.L.C. has received waste material from OLIN CORPORATION on 11/03/00 as described on Shipping Document number 0000011020 Sequence number 01.

Profile Number: CN6859
CWM Tracking ID: 8153576201
CWM Unit #: 1*0
Disposal Date: 11/03/00

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the date listed above.

Donna Ames-Cassick

DONNA AMES-CASSICK
COMPLIANCE MANAGER
Certificate # 192057
11/06/00

For questions please call
our Customer Service Dept.
at (800) 843-3604

Appendix F

Air Monitoring Data and Records

Table F1.

Summary of Tentatively Identified Compounds in Time Weighted Air Samples¹

Olin Chemical Property

51 Eames Street

Wilmington, Massachusetts

Sample Date	Sample ID	Lab ID	Compound	Method	Detected Result	Units	Map ID
8/8/00	Upwind	9334B	Acetone	TIC	132	ppbv	1-W
		9334B	Butanoic acid, 2-methylpropyl ester	TIC	112	ppbv	1-W
		9334B	Butanoic acid, butyl ester	TIC	218	ppbv	1-W
		9334B	Butanoic acid, ethyl ester	TIC	344	ppbv	1-W
		9334B	Butanoic acid, propyl ester	TIC	296	ppbv	1-W
		9334B	Hexanoic acid, ethyl ester	TIC	321	ppbv	1-W
		9334B	Pentanoic acid, ethyl ester	TIC	167	ppbv	1-W
8/15/00	North Side A	93023	2,2,4-trimethyl pentane	TIC	424	ppbv	2-N
		93023	2,2,5,5-tetramethyl hexane	TIC	144	ppbv	2-N
		93023	2,2,5-trimethyl hexane	TIC	206	ppbv	2-N
		93023	2,3,4-trimethyl pentane	TIC	257	ppbv	2-N
	North Side B	9349B	2,2,4-trimethyl pentane	TIC	240	ppbv	1-N
		9349B	2,2,5-trimethyl hexane	TIC	104	ppbv	1-N
		9349B	2,3,4-trimethyl pentane	TIC	160	ppbv	1-N
	North Side Soil Pad	11373	2,2,4-trimethyl pentane	TIC	132	ppbv	3-N
		11373	Acetone	TIC	538	ppbv	3-N
		11373	Nitromethane	TIC	262	ppbv	3-N
8/17/00	Gate to Bio Pad	93214	1-methyl-3-(1-methylethyl) benzene	TIC	578	ppbv	3-S
		93214	1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	TIC	707	ppbv	3-S
		93214	1-methyl-4-(1-methylethyl) 1,4-cyclohexadiene	TIC	388	ppbv	3-S
		93214	2,2,4,6,6-pentamethyl heptane	TIC	243	ppbv	3-S
		93214	2,2,6-trimethyl decane	TIC	128	ppbv	3-S
		93214	2,2,6-trimethyl octane	TIC	100	ppbv	3-S
		93214	Trimethyl-1,3-cyclopentadiene	TIC	115	ppbv	3-S
	North Side A	12610	1-methyl-3-(1-methylethyl) benzene	TIC	288	ppbv	2-N
		12610	1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	TIC	610	ppbv	2-N
		12610	1-methyl-4-(1-methylethyl) 1,4-cyclohexadiene	TIC	240	ppbv	2-N
		12610	2,2,4,6,6-pentamethyl heptane	TIC	142	ppbv	2-N
		12610	2,2,6-trimethyl octane	TIC	100	ppbv	2-N
	North Side B	A305	1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	TIC	1319	ppbv	1-N
		A305	1-methyl-4-(1-methylethyl) benzene	TIC	487	ppbv	1-N
		A305	1-methyl-4-(1-methylethyl) cyclohexene	TIC	647	ppbv	1-N
		A305	2,2,3-trimethyl hexane	TIC	101	ppbv	1-N
		A305	2,2-dimethyl octane	TIC	147	ppbv	1-N
		A305	2-methyl decane	TIC	112	ppbv	1-N
		A305	Trimethyl-1,3-cyclopentadiene	TIC	135	ppbv	1-N
		A305	2,2,4,6,6-pentamethyl heptane	TIC	142	ppbv	1-N
	North Side Soil Pad	12832	1-methyl-3-(1-methylethyl) benzene	TIC	740	ppbv	3-N
		12832	1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	TIC	417	ppbv	3-N
		12832	1-methyl-4-(1-methylethyl) 1,4-cyclohexadiene	TIC	155	ppbv	3-N
		12832	2,2-dimethyl octane	TIC	155	ppbv	3-N
		12832	2-methyl decane	TIC	108	ppbv	3-N
		12832	4-ethyl-2,2,6,6-tetramethyl heptane	TIC	298	ppbv	3-N
		12832	Dimethyl tetrasulphide	TIC	238	ppbv	3-N
		12832	Dimethyl trisulfide	TIC	396	ppbv	3-N
		12832	Dimethyl trisulfide	TIC	118	ppbv	3-N
		12832	Limone	TIC	118	ppbv	3-N
8/25/00	North of A	04421	1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	TIC	145	ppbv	2-N
8/26/00	North of B	9304B	Hexane	TIC	120	ppbv	1-N
	North of Debris/Soil Pile	9153B	2,2,4-trimethyl hexane	TIC	112	ppbv	3-N
8/29/00	Work Zone A	12311	1-methyl-3-(1-methylethyl) benzene	TIC	252	ppbv	2-WZ
8/30/00	SW of Area A	8818B	Dimethyl disulfide	TIC	136	ppbv	2-SW
		8818B	Dimethyl trisulfide	TIC	144	ppbv	2-SW
9/11/00	SW of Drum Area A	93020	2,6,10-trimethyl dodecane	TIC	501	ppbv	2-SW
		93020	Nonadecane	TIC	110	ppbv	2-SW
		93020	Pentadecane	TIC	123	ppbv	2-SW
		93020	Tetradecane	TIC	155	ppbv	2-SW

General Notes:

1. TIC = Tentatively Identified Compound.
2. ppbv = parts per billion by volume.
3. Map ID = sample locations are identified in Figure 1.

Footnote:

1. Only numerical results for compounds with a detected concentration equal to or greater than 100 ppbv are shown. Refer to the laboratory data sheets for results of all detected compounds.

Table F2.

Summary of Detected VOCs in Time Weighted Air Samples

Olin Chemical Property

51 Eames Street

Wilmington, Massachusetts

Sample Date	Sample ID	Lab ID	Compound	Method	Detected Result	Units	Map ID
8/2/00	North Side of Drum Area A	12301	Benzene	TO-15	2	ppbv	2-N
		12301	Toluene	TO-15	3.2	ppbv	2-N
		12301	Total VOC	TO-15	5.2	ppbv	2-N
	North Side of Drum Area B	0183	Benzene	TO-15	1.2	ppbv	1-N
		0183	Toluene	TO-15	2.4	ppbv	1-N
		0183	Total VOC	TO-15	3.6	ppbv	1-N
	Pad Area	11412	Benzene	TO-15	1.4	ppbv	3-N
		11412	Benzyl chloride	TO-15	1.4	ppbv	3-N
		11412	Toluene	TO-15	4.2	ppbv	3-N
		11412	Total VOC	TO-15	7	ppbv	3-N
	Upwind	93242	1,3,5-Trimethylbenzene	TO-15	3.3	ppbv	1-E
		93242	Benzene	TO-15	1.3	ppbv	1-E
		93242	Toluene	TO-15	2.9	ppbv	1-E
		93242	Total VOC	TO-15	7.5	ppbv	1-E
8/7/00	North Side A	12474	Benzyl chloride	TO-15	2.1	ppbv	2-N
		12474	Total VOC	TO-15	2.1	ppbv	2-N
	North Side B	809	Benzene	TO-15	1.3	ppbv	1-N
		809	Benzyl chloride	TO-15	4	ppbv	1-N
		809	Methylene Chloride	TO-15	1.7	ppbv	1-N
		809	Toluene	TO-15	3.7	ppbv	1-N
		809	Total VOC	TO-15	10.7	ppbv	1-N
	North Side of Soil/Debris Pad	93294	Benzyl chloride	TO-15	1.5	ppbv	3-N
		93294	Total VOC	TO-15	1.5	ppbv	3-N
8/8/00	Pad Area	9102B	Toluene	TO-15	1	ppbv	3-N
		9102B	Total VOC	TO-15	1	ppbv	3-N
	Upwind	9334B	1,2,4-Trimethylbenzene	TO-15	1.8	ppbv	1-W
		9334B	1,3-Butadiene	TO-15	2.4	ppbv	1-W
		9334B	cis-1,3-dichloropropene	TO-15	2.7	ppbv	1-W
		9334B	Ethyl benzene	TO-15	3.1	ppbv	1-W
		9334B	m,p-Xylene	TO-15	2.8	ppbv	1-W
		9334B	Methyl t-butyl ether (MTBE)	TO-15	7.3	ppbv	1-W
		9334B	o-Xylene	TO-15	1.8	ppbv	1-W
		9334B	Toluene	TO-15	3.7	ppbv	1-W
		9334B	Total VOC	TO-15	25.6	ppbv	1-W
8/9/00	North Side A	11291	1,1,2-Trichloroethane	TO-15	1.1	ppbv	2-N
		11291	1,2,4-Trichlorobenzene	TO-15	1.9	ppbv	2-N
		11291	Hexachlorobutadiene	TO-15	2.2	ppbv	2-N
		11291	Tetrachloroethene	TO-15	7.4	ppbv	2-N
		11291	Toluene	TO-15	1.7	ppbv	2-N
		11291	Total VOC	TO-15	14.3	ppbv	2-N
	North Side B	93017	1,1,2-Trichloroethane	TO-15	0.9	ppbv	1-N
		93017	Benzyl chloride	TO-15	1	ppbv	1-N
		93017	Toluene	TO-15	1.2	ppbv	1-N
		93017	Total VOC	TO-15	3.1	ppbv	1-N
	Upwind	0164	Benzyl chloride	TO-15	1.8	ppbv	1-W
		0164	Toluene	TO-15	1.3	ppbv	1-W
		0164	Total VOC	TO-15	3.1	ppbv	1-W

Table F2.

Summary of Detected VOCs in Time Weighted Air Samples

Olin Chemical Property
51 Eames Street
Wilmington, Massachusetts

Sample Date	Sample ID	Lab ID	Compound	Method	Detected Result	Units	Map ID
8/15/00	Gate to Bio Pad	9624B	Toluene	TO-15	15.1	ppbv	3-S
		9624B	Total VOC	TO-15	30.2	ppbv	3-S
	North Side A	93023	1,1,2,2-Tetrachloroethane	TO-15	1.9	ppbv	2-N
		93023	1,2,4-Trichlorobenzene	TO-15	2.3	ppbv	2-N
		93023	1,2,4-Trimethylbenzene	TO-15	2.4	ppbv	2-N
		93023	1,2-Dichlorobenzene	TO-15	1	ppbv	2-N
		93023	1,3,5-Trimethylbenzene	TO-15	2.3	ppbv	2-N
		93023	1,4-Dichlorobenzene	TO-15	1.4	ppbv	2-N
		93023	Benzyl chloride	TO-15	1.3	ppbv	2-N
		93023	Chlorobenzene	TO-15	1.7	ppbv	2-N
		93023	Ethyl benzene	TO-15	1.1	ppbv	2-N
		93023	Hexachlorobutadiene	TO-15	1.6	ppbv	2-N
		93023	m,p-Xylene	TO-15	2.3	ppbv	2-N
		93023	Tetrachloroethene	TO-15	1.9	ppbv	2-N
		93023	Toluene	TO-15	5	ppbv	2-N
		93023	Total VOC	TO-15	52.4	ppbv	2-N
	North Side B	9349B	1,2,4-Trichlorobenzene	TO-15	1.3	ppbv	1-N
		9349B	1,2,4-Trimethylbenzene	TO-15	1.3	ppbv	1-N
		9349B	m,p-Xylene	TO-15	1.4	ppbv	1-N
		9349B	o-Xylene	TO-15	1.2	ppbv	1-N
		9349B	Toluene	TO-15	5.8	ppbv	1-N
		9349B	Total VOC	TO-15	22	ppbv	1-N
	North Side Soil Pad	11373	Tetrachloroethene	TO-15	6.7	ppbv	3-N
		11373	Toluene	TO-15	2.2	ppbv	3-N
		11373	Total VOC	TO-15	17.8	ppbv	3-N
8/17/00	Gate to Bio Pad	93214	Benzene	TO-15	1.1	ppbv	3-S
		93214	Benzyl chloride	TO-15	4.6	ppbv	3-S
		93214	Toluene	TO-15	5.7	ppbv	3-S
		93214	Total VOC	TO-15	27.4	ppbv	3-S
		93214	Trichlorofluoromethane (11)	TO-15	2.3	ppbv	3-S
	North Side A	12610	Benzyl chloride	TO-15	2.4	ppbv	2-N
		12610	Toluene	TO-15	3.6	ppbv	2-N
		12610	Total VOC	TO-15	14.8	ppbv	2-N
		12610	Trichlorofluoromethane (11)	TO-15	1.4	ppbv	2-N
	North Side B	A305	Benzyl chloride	TO-15	5.1	ppbv	1-N
		A305	Toluene	TO-15	8.8	ppbv	1-N
		A305	Total VOC	TO-15	34.6	ppbv	1-N
		A305	Trichlorofluoromethane (11)	TO-15	3.4	ppbv	1-N
	North Side Soil Pad	12832	Benzene	TO-15	18.7	ppbv	3-N
		12832	Benzyl chloride	TO-15	4.6	ppbv	3-N
		12832	Ethyl benzene	TO-15	1	ppbv	3-N
		12832	m,p-Xylene	TO-15	1.1	ppbv	3-N
		12832	o-Xylene	TO-15	1.5	ppbv	3-N
		12832	Toluene	TO-15	41.2	ppbv	3-N
		12832	Total VOC	TO-15	141.6	ppbv	3-N
		12832	Trichlorofluoromethane (11)	TO-15	2.7	ppbv	3-N

Table F2.

Summary of Detected VOCs in Time Weighted Air Samples

Olin Chemical Property

51 Eames Street

Wilmington, Massachusetts

Sample Date	Sample ID	Lab ID	Compound	Method	Detected Result	Units	Map ID
8/25/00	Gate to Bio Pad	92092	Methylene Chloride	TO-15	2.3	ppbv	3-S
		92092	Toluene	TO-15	14.1	ppbv	3-S
		92092	Total VOC	TO-15	16.4	ppbv	3-S
	North of A	04421	1,1,2,2-Tetrachloroethane	TO-15	1.4	ppbv	2-N
		04421	Ethyl benzene	TO-15	1.6	ppbv	2-N
		04421	m,p-Xylene	TO-15	1.8	ppbv	2-N
		04421	o-Xylene	TO-15	1.6	ppbv	2-N
		04421	Tetrachloroethene	TO-15	1.4	ppbv	2-N
		04421	Toluene	TO-15	15.4	ppbv	2-N
		04421	Total VOC	TO-15	24.7	ppbv	2-N
		04421	Trichloroethene	TO-15	1.5	ppbv	2-N
	North of B	93208	Benzene	TO-15	1.2	ppbv	1-N
		93208	Ethyl benzene	TO-15	1	ppbv	1-N
		93208	m,p-Xylene	TO-15	1.4	ppbv	1-N
		93208	Methylene Chloride	TO-15	3.2	ppbv	1-N
		93208	Toluene	TO-15	50.1	ppbv	1-N
		93208	Total VOC	TO-15	65.8	ppbv	1-N
		93208	trans-1,3-dichloropropene	TO-15	1.2	ppbv	1-N
		93208	Trichloroethene	TO-15	7.7	ppbv	1-N
	North of Debris/Soil Pad	93139	Toluene	TO-15	13.2	ppbv	3-N
		93139	Total VOC	TO-15	13.2	ppbv	3-N
8/26/00	Gate to Bio Pad	11208	Benzene	TO-15	2	ppbv	3-S
		11208	m,p-Xylene	TO-15	1.3	ppbv	3-S
		11208	Methylene Chloride	TO-15	4.6	ppbv	3-S
		11208	Toluene	TO-15	88.6	ppbv	3-S
		11208	Total VOC	TO-15	98.6	ppbv	3-S
		11208	trans-1,3-dichloropropene	TO-15	2.1	ppbv	3-S
	North of A	03129	1,1,2-Trichloroethane	TO-15	4.7	ppbv	2-N
		03129	Benzene	TO-15	3.2	ppbv	2-N
		03129	Ethyl benzene	TO-15	4.5	ppbv	2-N
		03129	m,p-Xylene	TO-15	5.7	ppbv	2-N
		03129	Methylene Chloride	TO-15	11.3	ppbv	2-N
		03129	o-Xylene	TO-15	2.2	ppbv	2-N
		03129	Styrene	TO-15	2.2	ppbv	2-N
		03129	Tetrachloroethene	TO-15	2.1	ppbv	2-N
		03129	Toluene	TO-15	132.1	ppbv	2-N
		03129	Total VOC	TO-15	171.5	ppbv	2-N
		03129	trans-1,3-dichloropropene	TO-15	3.5	ppbv	2-N
	North of B	9304B	Benzene	TO-15	13.8	ppbv	1-N
		9304B	Benzyl chloride	TO-15	3.1	ppbv	1-N
		9304B	Chloroethane	TO-15	1	ppbv	1-N
		9304B	Ethyl benzene	TO-15	1.1	ppbv	1-N
		9304B	m,p-Xylene	TO-15	1.3	ppbv	1-N
		9304B	Methylene Chloride	TO-15	42.4	ppbv	1-N
		9304B	Toluene	TO-15	190.6	ppbv	1-N
		9304B	Total VOC	TO-15	259.5	ppbv	1-N
		9304B	trans-1,3-dichloropropene	TO-15	5.2	ppbv	1-N
		9304B	Trichlorofluoromethane (11)	TO-15	1	ppbv	1-N
	North of Debris/Soil Pile	9153B	1,1,2-Trichloroethane	TO-15	7.4	ppbv	3-N
		9153B	m,p-Xylene	TO-15	1.6	ppbv	3-N
		9153B	Methylene Chloride	TO-15	5.3	ppbv	3-N
		9153B	Toluene	TO-15	45.7	ppbv	3-N
		9153B	Total VOC	TO-15	60	ppbv	3-N

Table F2.

Summary of Detected VOCs in Time Weighted Air Samples

Olin Chemical Property

51 Eames Street

Wilmington, Massachusetts

Sample Date	Sample ID	Lab ID	Compound	Method	Detected Result	Units	Map ID
8/28/00	Gate to Bio Pad	12424	Benzene	TO-15	2.9	ppbv	3-S
		12424	Benzyl chloride	TO-15	1.3	ppbv	3-S
		12424	m,p-Xylene	TO-15	1.8	ppbv	3-S
		12424	Methyl t-butyl ether (MTBE)	TO-15	2.6	ppbv	3-S
		12424	Methylene Chloride	TO-15	3.6	ppbv	3-S
		12424	Toluene	TO-15	75.8	ppbv	3-S
		12424	Total VOC	TO-15	89.8	ppbv	3-S
		12424	trans-1,3-dichloropropene	TO-15	1.8	ppbv	3-S
	North of Area B	93277	Benzene	TO-15	2.5	ppbv	1-N
		93277	Benzyl chloride	TO-15	1.7	ppbv	1-N
		93277	Ethyl benzene	TO-15	1.4	ppbv	1-N
		93277	m,p-Xylene	TO-15	2.1	ppbv	1-N
		93277	Methyl t-butyl ether (MTBE)	TO-15	2.1	ppbv	1-N
		93277	Methylene Chloride	TO-15	4.4	ppbv	1-N
		93277	Toluene	TO-15	64.9	ppbv	1-N
		93277	Total VOC	TO-15	80.7	ppbv	1-N
		93277	trans-1,3-dichloropropene	TO-15	1.6	ppbv	1-N
	North of Debris/Soil Pad	12461	1,2,4-Trimethylbenzene	TO-15	1.3	ppbv	3-N
		12461	Benzene	TO-15	3.7	ppbv	3-N
		12461	Benzyl chloride	TO-15	3.6	ppbv	3-N
		12461	Ethyl benzene	TO-15	2.1	ppbv	3-N
		12461	m,p-Xylene	TO-15	2.9	ppbv	3-N
		12461	Methylene Chloride	TO-15	8.3	ppbv	3-N
		12461	o-Xylene	TO-15	1.6	ppbv	3-N
		12461	Toluene	TO-15	135.1	ppbv	3-N
		12461	Total VOC	TO-15	162.1	ppbv	3-N
		12461	trans-1,3-dichloropropene	TO-15	3.5	ppbv	3-N
	SW of Area A	A220	Ethyl benzene	TO-15	5.1	ppbv	2-SW
		A220	m,p-Xylene	TO-15	6.9	ppbv	2-SW
		A220	Methylene Chloride	TO-15	2.6	ppbv	2-SW
		A220	o-Xylene	TO-15	2.6	ppbv	2-SW
		A220	Styrene	TO-15	2.9	ppbv	2-SW
		A220	Tetrachloroethene	TO-15	1.4	ppbv	2-SW
		A220	Toluene	TO-15	61	ppbv	2-SW
		A220	Total VOC	TO-15	84	ppbv	2-SW
		A220	trans-1,3-dichloropropene	TO-15	1.5	ppbv	2-SW
8/29/00	Work Zone A	12311	Benzyl chloride	TO-15	3.4	ppbv	2-WZ
		12311	Methylene Chloride	TO-15	3.2	ppbv	2-WZ
		12311	Toluene	TO-15	4.4	ppbv	2-WZ
		12311	Total VOC	TO-15	11	ppbv	2-WZ
8/30/00	East of 1st Gate to Bio Pad	12898	Toluene	TO-15	14	ppbv	3-S
		12898	Total VOC	TO-15	14	ppbv	3-S
	North of Area A	93141	Styrene	TO-15	7	ppbv	2-N
		93141	Toluene	TO-15	12.7	ppbv	2-N
		93141	Total VOC	TO-15	19.7	ppbv	2-N
		93414	Styrene	TO-15	7	ppbv	2-N
		93414	Toluene	TO-15	12.7	ppbv	2-N
		93414	Total VOC	TO-15	19.7	ppbv	2-N
	North of Debris/Soil Pad	93300	Benzyl chloride	TO-15	9.5	ppbv	3-N
		93300	m,p-Xylene	TO-15	1.6	ppbv	3-N
		93300	Methylene Chloride	TO-15	2.9	ppbv	3-N
		93300	Toluene	TO-15	40	ppbv	3-N
		93300	Total VOC	TO-15	54	ppbv	3-N
	SW of Area A	8818B	Benzene	TO-15	1.2	ppbv	2-SW
		8818B	Benzyl chloride	TO-15	11.5	ppbv	2-SW
		8818B	Toluene	TO-15	26.1	ppbv	2-SW
		8818B	Total VOC	TO-15	38.8	ppbv	2-SW

Table F2.

Summary of Detected VOCs in Time Weighted Air Samples

Olin Chemical Property

51 Eames Street

Wilmington, Massachusetts

Sample Date	Sample ID	Lab ID	Compound	Method	Detected Result	Units	Map ID
9/7/00	East of 1st Gate to BC	A301	Toluene	TO-15	4.7	ppbv	3-S
		A301	Toluene	TO-15	4.7	ppbv	3-S
		A301	Total VOC	TO-15	4.7	ppbv	3-S
		A301	Total VOC	TO-15	4.7	ppbv	3-S
	North of Area B	12618	1,1,2-Trichloroethane	TO-15	1.8	ppbv	1-N
		12618	Toluene	TO-15	17.8	ppbv	1-N
		12618	Total VOC	TO-15	19.6	ppbv	1-N
	North of Soil Pad	12467	Toluene	TO-15	8.2	ppbv	3-N
		12467	Total VOC	TO-15	8.2	ppbv	3-N
	SW of Drum Area A	93081	Toluene	TO-15	2.2	ppbv	2-SW
		93081	Total VOC	TO-15	2.2	ppbv	2-SW
9/8/00	East of 1st Gate to BC	93218	Toluene	TO-15	9	ppbv	3-S
		93218	Toluene	TO-15	9	ppbv	3-S
		93218	Total VOC	TO-15	9	ppbv	3-S
		93218	Total VOC	TO-15	9	ppbv	3-S
	North of Area B	12638	1,1,2-Trichloroethane	TO-15	7.4	ppbv	1-N
		12638	Toluene	TO-15	5.5	ppbv	1-N
		12638	Total VOC	TO-15	12.9	ppbv	1-N
	North of Concrete Soil Pad	12830	1,1,2-Trichloroethane	TO-15	1.9	ppbv	3-N
		12830	Benzyl chloride	TO-15	1.3	ppbv	3-N
		12830	Toluene	TO-15	6	ppbv	3-N
		12830	Total VOC	TO-15	9.2	ppbv	3-N
	SW of Area A	12155	Toluene	TO-15	1.9	ppbv	2-SW
		12155	Total VOC	TO-15	1.9	ppbv	2-SW
9/11/00	East of Gate to Bio Cal	93229	1,2,4-Trichlorobenzene	TO-15	1.2	ppbv	3-S
		93229	Benzyl chloride	TO-15	1.5	ppbv	3-S
		93229	Toluene	TO-15	1.5	ppbv	3-S
		93229	Total VOC	TO-15	4.2	ppbv	3-S
	North of Area B	9428BB	Toluene	TO-15	1.7	ppbv	1-N
		9428BB	Total VOC	TO-15	1.7	ppbv	1-N
	North of Soil Pad	9605B	1,2,4-Trimethylbenzene	TO-15	2.7	ppbv	3-N
		9605B	1,3,5-Trimethylbenzene	TO-15	2	ppbv	3-N
		9605B	Benzyl chloride	TO-15	2.8	ppbv	3-N
		9605B	Toluene	TO-15	9.5	ppbv	3-N
		9605B	Total VOC	TO-15	17	ppbv	3-N
	SW of Drum Area A	93020	1,2,4-Trichlorobenzene	TO-15	3.8	ppbv	2-SW
		93020	Hexachlorobutadiene	TO-15	3.5	ppbv	2-SW
		93020	Total VOC	TO-15	7.3	ppbv	2-SW
9/13/00	East of 1st Gate to BC	A304	1,2,4-Trichlorobenzene	TO-15	1	ppbv	3-S
		A304	Hexachlorobutadiene	TO-15	1	ppbv	3-S
		A304	Toluene	TO-15	1.2	ppbv	3-S
		A304	Total VOC	TO-15	3.2	ppbv	3-S
	North of Area B	12256	Toluene	TO-15	2	ppbv	1-N
		12256	Total VOC	TO-15	2	ppbv	1-N
	North of Soil Pad	9334B	Benzyl chloride	TO-15	2	ppbv	3-N
		9334B	Toluene	TO-15	7.3	ppbv	3-N
		9334B	Total VOC	TO-15	9.3	ppbv	3-N

Table F2.

Summary of Detected VOCs in Time Weighted Air Samples

Olin Chemical Property

51 Eames Street

Wilmington, Massachusetts

Sample Date	Sample ID	Lab ID	Compound	Method	Detected Result	Units	Map ID
9/18/00	East of 1st Gate to Bio Cell	93120	Tetrachloroethene	TO-15	6.6	ppbv	3-S
		93120	Total VOC	TO-15	6.6	ppbv	3-S
	North of Area B	93047	1,1,2-Trichloroethane	TO-15	2.5	ppbv	1-N
		93047	Benzyl chloride	TO-15	1.1	ppbv	1-N
		93047	Tetrachloroethene	TO-15	1.6	ppbv	1-N
		93047	Toluene	TO-15	1	ppbv	1-N
		93047	Total VOC	TO-15	6.2	ppbv	1-N
	North of Concrete Soil Pad	12533	Tetrachloroethene	TO-15	2.4	ppbv	3-N
		12533	Total VOC	TO-15	2.4	ppbv	3-N
	SW of Drum Area A	93254	Benzyl chloride	TO-15	2.6	ppbv	2-SW
		93254	Tetrachloroethene	TO-15	20.8	ppbv	2-SW
		93254	Total VOC	TO-15	23.4	ppbv	2-SW
9/28/00	North Side of Bio Cell	11344	Benzene	TO-15	7.8	ppbv	4-N
		11344	Methylene Chloride	TO-15	1.3	ppbv	4-N
		11344	Toluene	TO-15	4.3	ppbv	4-N
		11344	Total VOC	TO-15	13.4	ppbv	4-N
	North Side of Debris Area	11412	Benzene	TO-15	4.2	ppbv	5-N
		11412	Total VOC	TO-15	4.2	ppbv	5-N
	South Side of Bio Cell	93242	Benzene	TO-15	3.5	ppbv	4-S
		93242	Benzyl chloride	TO-15	1.6	ppbv	4-S
		93242	Toluene	TO-15	1.3	ppbv	4-S
		93242	Total VOC	TO-15	6.4	ppbv	4-S
	South Side of Debris Area	0183	Benzene	TO-15	2.3	ppbv	5-S
		0183	Benzyl chloride	TO-15	2.3	ppbv	5-S
		0183	Methylene Chloride	TO-15	1.2	ppbv	5-S
		0183	Toluene	TO-15	1.4	ppbv	5-S
		0183	Total VOC	TO-15	7.2	ppbv	5-S
9/29/00	North Side of Bio Cell	92044	Benzene	TO-15	1.9	ppbv	4-N
		92044	Toluene	TO-15	1.3	ppbv	4-N
		92044	Total VOC	TO-15	3.2	ppbv	4-N
	North Side of Debris Area	93178	Benzene	TO-15	2.3	ppbv	5-N
		93178	Chloroform	TO-15	3.7	ppbv	5-N
		93178	Tetrachloroethene	TO-15	2.7	ppbv	5-N
		93178	Toluene	TO-15	1.7	ppbv	5-N
		93178	Total VOC	TO-15	10.4	ppbv	5-N
	South Side of Bio Cell	92025	Benzene	TO-15	1.7	ppbv	4-S
		92025	Chloroform	TO-15	2	ppbv	4-S
		92025	Chloromethane	TO-15	10.1	ppbv	4-S
		92025	Tetrachloroethene	TO-15	2.2	ppbv	4-S
		92025	Toluene	TO-15	1.8	ppbv	4-S
		92025	Total VOC	TO-15	20.8	ppbv	4-S
		92025	trans-1,3-dichloropropene	TO-15	3	ppbv	4-S
	South Side of Debris Area	12488	Benzene	TO-15	1.4	ppbv	5-S
		12488	Toluene	TO-15	1.3	ppbv	5-S
		12488	Total VOC	TO-15	2.7	ppbv	5-S

General Notes:

1. VOCs = Volatile Organic Compounds.
2. ppbv = parts per billion by volume.
3. Map ID = sample locations are identified in Figure 1.

REAL-TIME WORK ZONE DATA

DAILY FIELD MONITORING RESULTS

DATE: 8/2/00 WEDNESDAY

[illegible]

DAILY FIELD MONITORING RESULTS

DATE: 8/3/00 THURSDAY

TIME	INSTRUMENT	LOCATION	READING
NO	EARLY AM	READINGS - DUE TO RAIN	
11 30	MULTI-RAE	CORNER SOUTH OF DRUM AREA A	OXY = 21.0
"	SIBATA	VOC = 0.0 CO = 0.0 LEL = 0.0 H ₂ S = 0.0	
"	SIBATA	CORNER SOUTH OF DRUM AREA A	0.025
11 40	SIBATA	EAST OF DRUM AREA B	0.027
"	MULTI-RAE	" " "	OXY = 21.0
"	"	VOC = 0.0 CO = 0.0 LEL = 0.0 H ₂ S = 0.0	
11 45	SIBATA	DRUM PAD	0.026
"	MULTI-RAE	" "	OXY = 20.8
"	"	VOC = 0.0 CO = 0.0 LEL = 0.0 H ₂ S = 0.0	
12 50	SIBATA	NORTH WEST CORNER (UPWIND)	0.026
"	MULTI-RAE	" " "	OXY = 20.9
"	"	VOC = 0.0 CO = 0.0 LEL = 0.0 H ₂ S = 0.0	
13 15	SIBATA	CORNER SOUTH OF DRUM AREA A	0.028
"	MULTI-RAE	" " "	OXY = 20.8
"	"	VOC = 0.0 CO = 0.0 LEL = 0.0 H ₂ S = 0.0	
13 20	SIBATA	EAST OF DRUM AREA B	0.027
"	MULTI-RAE	" " "	OXY = 21.0
"	"	VOC = 0.0 CO = 0.0 LEL = 0.0 H ₂ S = 0.0	
13 25	SIBATA	DRUM PAD	0.026
"	MULTI-RAE	" "	OXY = 21.1
"	"	VOC = 0.0 CO = 0.0 LEL = 0.0 H ₂ S = 0.0	
13 30	SIBATA	NORTH WEST CORNER (UPWIND)	0.026
"	MULTI-RAE	" " "	OXY = 21.0
"	"	VOC = 0.0 CO = 0.0 LEL = 0.0 H ₂ S = 0.0	

DAILY FIELD MONITORING RESULTS

DATE: 8/14/00

D.C. Leising

TIME	INSTRUMENT	LOCATION	READING
0730	SIBATA	CORNER SOUTH WEST of DRUM AREA A	0.021 mg/m ³
"	MULTI-RAE	" " "	O ₂ = 20.8 ppm
"	"	VOC = 0.0 ppm LEL = 0.0 ppm CO = 0.0 ppm H ₂ S = 0.0 ppm	
0735	SIBATA	SOUTH WEST of DRUM AREA B	0.020 mg/m ³
"	MULTI-RAE	" " "	O ₂ = 20.8 ppm
"	"	VOC = 0.0 ppm LEL = 0.0 ppm CO = 0.0 ppm H ₂ S = 0.0 ppm	
0740	SIBATA	DEBRIS PAD	0.019 mg/m ³
"	MULTI-RAE	" " "	O ₂ = 21.0 ppm
"	"	VOC = 0.0 ppm LEL = 0.0 ppm CO = 0.0 ppm H ₂ S = 0.0 ppm	
0745	SIBATA	NORTH WEST SIDE (UPWIND)	0.021 mg/m ³
"	MULTI-RAE	" " "	O ₂ = 20.9 ppm
"	"	VOC = 0.0 ppm LEL = 0.0 ppm CO = 0.0 ppm H ₂ S = 0.0 ppm	
1540	SIBATA	CORNER SOUTH WEST of DRUM AREA A	0.020 mg/m ³
"	MULTI-RAE	" " "	O ₂ = 20.9 ppm
"	"	VOC = 0.0 ppm LEL = 0.0 ppm CO = 0.0 ppm H ₂ S = 0.0 ppm	
1545	SIBATA	SOUTH WEST of DRUM AREA B	0.023 mg/m ³
"	MULTI-RAE	" " "	O ₂ = 20.9 ppm
"	"	VOC = 0.0 ppm LEL = 0.0 ppm CO = 0.0 ppm H ₂ S = 0.0 ppm	
1555	SIBATA	DEBRIS PAD	0.018 mg/m ³
"	MULTI-RAE	" " "	O ₂ = 21.0 ppm
"	"	VOC = 0.0 ppm LEL = 0.0 ppm CO = 0.0 ppm H ₂ S = 0.0 ppm	
1600	SIBATA	NORTH WEST SIDE (UPWIND)	0.017 mg/m ³
"	MULTI-RAE	" " "	O ₂ = 20.9 ppm
"	"	VOC = 0.0 ppm LEL = 0.0 ppm CO = 0.0 ppm H ₂ S = 0.0 ppm	

DAILY FIELD MONITORING RESULTS

DATE: 8/17/00

TIME	INSTRUMENT	LOCATION	READING
0804	Sibata	South end of drum area B	0.034
0805	Multi Rac		
		VOC	0 ppb
		LEL	0 %
		H ₂ S	0 ppm
		O ₂	20.9 %
0832	Sibata		0.028
0845	Multi Rac		
		VOC	0
		LEL	0
		H ₂ S	0
		O ₂	20.9
0914	Sibata		0.029
	Multi Rac		
		VOC	0
		H ₂ S	0
		O ₂	21.0
		LEL	0
1110	Sibata		0.020
	Multi Rac		
		VOC	0
		LEL	0
		H ₂ S	0
		O ₂	20.9
1335	Sibata		0.037
	Multi Rac		
		VOC	0
		LEL	0
		H ₂ S	0
		O ₂	21.0 %

DAILY FIELD MONITORING RESULTS

DATE: 8 17 100.

TIME	INSTRUMENT	LOCATION	READING
1423	Sbata		0.033 mg/m ³
	Multi, Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 21.2
1518			0.033 mg/m ³
			VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 21.0
1551	Sbata		8.029
	Multi, Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 21.1 %

DAILY FIELD MONITORING RESULTS

DATE: 8/21/00

TIME	INSTRUMENT	LOCATION	READING
1300	Sibata	Outside drum area B East	0.036
	Multi Rae	" " VOC	0 ppm
		" " LEL	0 %
		" " H ₂ S	0 pp
		" " O ₂	20.9 %
1303	Sibata	" "	
	Multi Rae	" " North	0.037
		" " VOC	0
		" " LEL	0
		" " H ₂ S	0
		" " O ₂	0
1306	Sibata	" " South	0.039
	Multi Rae	" " VOC	0
		" " LEL	0
		" " H ₂ S	0
		" " O ₂	20.9
1309	Sibata	" " West	0.034
	Multi Rae	" " VOC	0
		" " LEL	0
		" " H ₂ S	0
		" " O ₂	20.9

DAILY FIELD MONITORING RESULTS

DATE: 8/7/00

TIME	INSTRUMENT	LOCATION	READING
1400	Sibata	Outside drum area B East	
	Multi use		VOC 0.032
			LEL 0
			H ₂ S 0
			O ₂ 20.9
1404	Sibata	North	0.034
	Multi use		VOC 0
			LEL 0
			H ₂ S 0
			O ₂ 20.9
1407	Sibata	South	0.033
	Multi use		VOC 0
			LEL 0
			H ₂ S 0
			O ₂ 20.9
1410	Sibata	West	
	Multi use		VOC 0
			LEL 0
			H ₂ S 0
			O ₂ 20.9

DAILY FIELD MONITORING RESULTS

DATE: 8/7/00

TIME	INSTRUMENT	LOCATION	READING
1455	Sibata	Outside drum area B East	0.031
	MultiRae		0
			0
			0
			20.9
1459	Sibata	North	0.036
	MultiRae		0
			0
			0
			20.9
1503	Sibata	South	0.035
	MultiRae		0
			0
			0
			20.9
1505	Sibata	West	0.034
	MultiRae		0
			0
			0
			20.9

DAILY FIELD MONITORING RESULTS

DATE: 8/7/00

TIME	INSTRUMENT	LOCATION	READING
1600	Sibata	outside drum area B East	0.033
	MultiRae		VOC 0
			LEL 0
			H ₂ S 0
			O ₂ 20.9
1604	Sibata	North	0.030
	MultiRae		VOC 0
			LEL 0
			H ₂ S 0
			O ₂ 20.9
1607	Sibata	South	0.030
	MultiRae		VOC 0
			LEL 0
			H ₂ S 0
			O ₂ 20.9
1610	Sibata	West	0.028
	MultiRae		VOC 0
			LEL 0
			H ₂ S 0
			O ₂ 20.9

DAILY FIELD MONITORING RESULTS

DATE: 8/8/00		Background Dust 0.029 mg/m ³	
Time	Instrument	Location: Workzone	Reading
0805	Sibata	South side of drum storage area B	0.037
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
0848	Sibata		0.079 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 21.1 %
1029	Sibata		0.033
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
1335	Sibata	Center of drum storage area B	0.024 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
1456	Sibata	Center of drum storage area B	0.041
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
1559	Sibata	Center of drum storage area B	0.037
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 21.0 %

Start time: personal pump 0736

work zone drum storage area B

DAILY FIELD MONITORING RESULTS

DW = Downwind

DATE: 8/8/00

Perimeter Readings

Time	Instrument	Location	Reading
1141	Sibata	East Perimeter of drum storage B	0.023 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 20.8%
1145	Sibata	South Perimeter of Drum Storage B	0.026 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 20.8%
1148	Sibata	East Perimeter of Drum Storage B (DW)	0.026 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 20.9%
1151	Sibata	North Perimeter of Drum Storage B	0.024
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 20.8%
1348	Sibata	West Perimeter of Drum Storage B	0.041 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.1%
1351	Sibata	Downwind of Pump truck loading	0.082 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.1%

DAILY FIELD MONITORING RESULTS

DATE: 8/8/00

Perimeter Readings

Time	Instrument	Location	Reading
1353	Sibata	North Perimeter of Drum Storage B	0.048 mg/L
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.1%
1356	Sibata	East Perimeter of Drum Storage B	0.025 mg/L
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.0%
1359	Sibata	South Perimeter of Drum Storage B	0.025 mg/L
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.1%
1502	Sibata	South Perimeter of Drum Storage Area B	0.025 mg/L
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.2%
1506	Sibata	Downwind of dump truck loading	0.195 mg/L
	Multi Rae	East perimeter of site B	VOC 0.0 ppm
			LEL 0%
1508		* Second Reading for dust 0.033 mg/L	H ₂ S 0 ppm
			O ₂ 21.1%
1511	Sibata	South Perimeter of drum storage area B	0.025 mg/L
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.1%

DAILY FIELD MONITORING RESULTS

DATE: 8/8/00

Perimeter Readings

Time	Instrument	Location	Reading
1513	Sibata	West perimeter of drum storage area B	0.024 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.2%
1602	Sibata	West perimeter of drum storage area B	0.024 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.1%
1605	Sibata	South Perimeter of drum storage area B	0.025 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 20.9
1612	Sibata	East of scrap metal loading	0.045
	Multi Rae	Drum area of storage area B	VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.0%
1615	Sibata	North Perimeter of storage area B	0.024 mg/m ³
	Multi Rae		VOC 0.0 ppm
			LEL 0%
			H ₂ S 0 ppm
			O ₂ 21.1%
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O

DAILY FIELD MONITORING RESULTS

Sensitivity 50

DATE: 8/9/00

Background dust 0.012 mg/m³

Time	Instrument	Location	Work zone	Reading
0821	Sibata	W2 of drum storage area B		0.022 mg/m ³
	Multi Rae			VOC 0.0 ppm
				LEL 0 %
				H ₂ S 0 ppm
				O ₂ 20.9 %
0904	Sibata	Center of drum storage area R		0.083 mg/m ³
	Multi Rae			VOC 0.0 ppm
				LEL 0 %
				H ₂ S 0 ppm
				O ₂ 20.9 %
1021	Sibata	W2 center of drum storage area R		0.022 mg/m ³
	Multi Rae			VOC 0.0 ppm
				LEL 0 %
				H ₂ S 0 ppm
				O ₂ 21.0 %
1331	Sibata	W2 South side of drum storage area B		0.031 mg/m ³
	Multi Rae			VOC 0.0 ppm
				LEL 0 %
				H ₂ S 0 ppm
				O ₂ 20.9 %
1337	Sibata	DW of dump truck		0.088 mg/m ³
	Multi Rae			VOC 0.0 ppm
				LEL 0 %
				H ₂ S 0 ppm
				O ₂ 20.9 %
1524	Sibata	W2 South side of drum storage area B		0.031 mg/m ³
	Multi Rae			VOC 0.0 ppm
				LEL 0 %
				H ₂ S 0 ppm
				O ₂ 21.0 %

DAILY FIELD MONITORING RESULTS

DATE: 8/7/00

Time	Instrument	Location	Perimeter	Reading
1000	Sibata	West Perimeter of drum storage area		0.024 mg/m ³
	Multi Rae		VOC	0.0 ppm
			LEL	0 %
			H ₂ S	0 ppm
			O ₂	20.8 %
1004	Sibata	South Perimeter		0.023 mg/m ³
	Multi Rae		VOC	0.0 ppm
			LEL	0 %
			H ₂ S	0 ppm
			O ₂	20.9 %
1008	Sibata	East Perimeter		0.083 mg/m ³
	Multi Rae		VOC	0.0 ppm
			LEL	0 %
			H ₂ S	0 ppm
			O ₂	20.9 %
1013	Sibata	North Perimeter		0.033 mg/m ³
	Multi Rae		VOC	0.0 ppm
			LEL	0 %
			H ₂ S	0 ppm
			O ₂	21.0 %
1131	Sibata	East Perimeter of drum storage area		0.047 mg/m ³
	Multi Rae		VOC	0.0 ppm
			LEL	0 %
			H ₂ S	0 ppm
			O ₂	21.1 %
1135	Sibata	South Perimeter		0.098 mg/m ³
	Multi Rae		VOC	0.0 ppm
			LEL	0 %
			H ₂ S	0 ppm
			O ₂	21.1 %

DAILY FIELD MONITORING RESULTS

DATE: 8/9/00

Time	Instrument	Location	Reading
1139	Sibata	West Perimeter Storage area B	0.019 mg/L
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
1508	Sibata	North Perimeter	0.025 mg/L
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
1512	Sibata	West Perimeter	0.021 mg/L
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
1515	Sibata	South Perimeter	0.020 mg/L
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
1519	Sibata	East Perimeter	0.029 mg/L
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O

DAILY FIELD MONITORING RESULTS

DATE: 8/10/00

Time	Instrument	Location	Reading
0938	Sibata	W2 of soil sampling in drum storage	0.016 mg/m ³
	Multi Rae	area B	VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
1102	Sibata	W2 of soil sampling in drum storage	0.016 mg/m ³
	Multi Rae	area B	VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 21.1 %
1145	Sibata	W2 of soil sampling in drum storage	0.014 mg/m ³
	Multi Rae	area B	VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
	Sibata		
	Multi Rae	Ext Exit Drum area B	VOC
		(A) 1400	LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O

DAILY FIELD MONITORING RESULTS

DATE: 8/15/00

Time	Instrument	Location WZ of drum Area A excavation	Reading
0841	Sibata	NW corner of drum Area A	0.006mg/L ³
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
0911	Sibata	NW corner of drum Area A	0.005mg/L ³
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
1051	Sibata	NW corner of drum Area A	0.005mg/L ³
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 20.9 %
1321	Sibata	West corner of drum Area A	0.003mg/L ³
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 21.0 %
1441	Sibata	center of drum Area A	0.002mg/L ³
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 21.1 %
1532	Sibata	center of drum Area A	0.005mg/L ³
	Multi Rae		VOC 0.0 ppm
			LEL 0 %
			H ₂ S 0 ppm
			O ₂ 21.0 %

DAILY FIELD MONITORING RESULTS

DATE: 8/17 Realtime dust monitoring in work zone

Time	Instrument	Location	Reading
0743	Sibata	Center of drum Area A	0.002 mg/m ³
	Multi Rae		VOC
			LEL
			H ₂ S
			O
0835	Sibata	center of drum Area A	0.003 mg/m ³
	Multi Rae		VOC
			LEL
			H ₂ S
			O
0951	Sibata	center of drum Area A	0.005 mg/m ³
	Multi Rae		VOC
			LEL
			H ₂ S
			O
1103	Sibata	center of drum Area A	0.005 mg/m ³
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD

Site ID: E672

Data Points: 22

Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 08/17/2000 07:05

```
=====
Gas Type:          CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels:  35.0  50.0 10.0 10.0 19.5
=====
```

```
=====
Line#   Date Time   CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
=====
 1 08/17/2000 07:44    0.0    0.0    0.0    0.0  20.9
 2 08/17/2000 07:54    0.0    0.0    0.0    0.0  21.0
 3 08/17/2000 08:04    0.0    0.0    0.0    0.0  21.1
 4 08/17/2000 08:14    0.0    0.0    0.0    0.0  21.1
 5 08/17/2000 08:24    0.0    0.0    0.0    0.0  21.2
 6 08/17/2000 08:34    0.0    0.0    0.0    0.0  21.2
 7 08/17/2000 08:44    0.0    0.0    0.0    0.0  21.2
 8 08/17/2000 08:54    0.0    0.0    0.0    0.0  21.2
 9 08/17/2000 09:04    0.0    0.0    0.0    0.0  21.2
10 08/17/2000 09:14    0.0    0.0    0.0    0.0  21.2
11 08/17/2000 09:24    0.0    0.0    0.0    0.0  21.3
12 08/17/2000 09:34    0.0    0.0    0.0    0.0  21.2
13 08/17/2000 09:44    0.0    0.0    0.0    0.0  21.3
14 08/17/2000 09:54    0.0    0.0    0.0    0.0  21.3
15 08/17/2000 10:04    0.0    0.0    0.0    0.0  21.3
16 08/17/2000 10:14    0.0    0.0    0.0    0.0  21.3
17 08/17/2000 10:24    0.0    0.0    0.0    0.0  21.3
18 08/17/2000 10:34    0.0    0.0    0.0    0.0  21.2
19 08/17/2000 10:44    0.0    0.0    0.0    0.0  21.2
20 08/17/2000 10:54    0.0    0.0    0.0    0.0  21.3
21 08/17/2000 11:04    0.0    0.0    0.0    0.0  21.4
22 08/17/2000 11:14    0.0    0.0    0.0    0.0  21.4
=====
```

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 22 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/17/2000 07:05
Start At: 08/17/2000 07:44 End At: 08/17/2000 11:14

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	—	—
TWA Alarm Levels:	35.0	10.0	10.0	—	—

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	0.0	0.0	0.0	0.0	21.4
Min Data Value:	0.0	0.0	0.0	0.0	20.9
TWA Data Value:	0.0	0.0	0.0	—	—
AVG Data Value:	0.0	0.0	0.0	—	—

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD

Site ID: E672

Data Points: 17

Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 08/22/2000 07:04

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	08/22/2000 07:42	0.2	0.0	0.0	0.0	20.8
2	08/22/2000 07:52	0.4	0.0	0.0	0.0	20.8
3	08/22/2000 08:02	0.6	0.0	0.0	0.0	20.9
4	08/22/2000 08:12	0.8	0.0	0.0	0.1	21.0
5	08/22/2000 08:22	0.9	0.0	0.0	0.1	21.0
6	08/22/2000 08:32	1.1	0.0	0.0	0.2	21.1
7	08/22/2000 08:42	1.3	0.0	0.0	0.2	21.1
8	08/22/2000 08:52	1.5	0.0	0.0	0.3	21.1
9	08/22/2000 09:02	1.8	0.0	0.0	0.4	21.1
10	08/22/2000 09:12	2.1	0.0	0.0	0.5	21.2
11	08/22/2000 09:22	2.4	0.0	0.0	0.5	21.3
12	08/22/2000 09:32	2.6	0.0	0.0	0.4	21.4
13	08/22/2000 09:42	2.6	0.0	0.0	0.4	21.4
14	08/22/2000 09:52	2.5	0.0	0.0	0.3	21.4
15	08/22/2000 10:02	2.5	0.0	0.0	0.4	21.4
16	08/22/2000 10:12	2.6	0.0	0.0	0.4	21.4
17	08/22/2000 10:22	2.4	0.0	0.0	0.4	21.5

Work Zone Drum Area A

Instrument: Multi-gas Monitor (PGM50-5P)
User ID: AHIBBEARD Site ID: E672
Data Points: 37 Data Type: Avg
Last Calibration Time: 08/22/2000 07:04

Serial Number: 504754

Sample Period: 600 sec

Gas Type: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels: 35.0 50.0 10.0 10.0 19.5

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
1	08/22/2000 10:38	0.2	0.0	0.0	0.0	20.8
2	08/22/2000 10:48	0.6	0.8	0.0	0.1	20.8
3	08/22/2000 10:58	1.0	0.1	0.0	0.1	20.9
4	08/22/2000 11:08	1.4	0.7	0.0	0.2	20.9
5	08/22/2000 11:18	1.4	0.3	0.0	0.3	21.0
6	08/22/2000 11:28	1.3	0.4	0.0	0.3	21.0
7	08/22/2000 11:38	1.3	0.3	0.0	0.3	21.0
8	08/22/2000 11:48	1.4	0.0	0.0	0.3	21.0
9	08/22/2000 11:58	2.0	0.0	0.0	0.4	20.9
10	08/22/2000 12:08	2.4	0.0	0.0	0.4	20.9
11	08/22/2000 12:18	2.6	0.0	0.0	0.4	20.9
12	08/22/2000 12:28	2.7	0.0	0.0	0.4	20.9
13	08/22/2000 12:38	2.8	0.0	0.0	0.5	20.9
14	08/22/2000 12:48	2.5	0.0	0.0	0.3	21.0
15	08/22/2000 12:58	1.8	0.0	0.0	0.2	21.1
16	08/22/2000 13:08	1.7	0.0	0.0	0.4	21.0
17	08/22/2000 13:18	1.7	0.0	0.0	0.4	21.0
18	08/22/2000 13:28	1.4	0.1	0.0	0.3	21.0
19	08/22/2000 13:38	1.0	0.0	0.0	0.1	21.0
20	08/22/2000 13:48	0.6	0.0	0.0	0.2	21.0
21	08/22/2000 13:58	0.3	0.0	0.0	0.1	21.1
22	08/22/2000 14:08	0.1	0.0	0.0	0.0	21.1
23	08/22/2000 14:18	0.0	0.0	0.0	0.1	21.0
24	08/22/2000 14:28	0.0	0.0	0.0	0.1	21.0
25	08/22/2000 14:38	0.0	0.0	0.0	0.1	21.0
26	08/22/2000 14:48	0.0	0.0	0.0	0.0	21.0
27	08/22/2000 14:58	0.0	0.0	0.0	0.0	21.0
28	08/22/2000 15:08	0.0	0.0	0.0	0.0	21.0
29	08/22/2000 15:18	0.0	0.0	0.0	0.0	21.0
30	08/22/2000 15:28	0.0	0.0	0.0	0.0	21.0
31	08/22/2000 15:38	0.0	0.0	0.0	0.1	20.9
32	08/22/2000 15:48	0.0	0.1	0.0	0.1	20.9
33	08/22/2000 15:58	0.0	0.3	0.0	0.1	21.0
34	08/22/2000 16:08	0.0	0.0	0.0	0.1	21.0
35	08/22/2000 16:18	0.0	0.0	0.0	0.1	20.9
36	08/22/2000 16:28	0.0	0.0	0.0	0.1	21.0
37	08/22/2000 16:38	0.0	0.0	0.0	0.2	21.0

Work zone
Drum Area A

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: ARIBBARD Site ID: E672
Data Points: 37 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/22/2000 07:04
Start At: 08/22/2000 10:38 End At: 08/22/2000 16:38

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	2.8	0.8	0.0	0.5	21.1
Min Data Value:	0.0	0.0	0.0	0.0	20.8
TWA Data Value:	0.7	0.1	0.0	.....	.....
AVG Data Value:	0.9	0.1	0.0	.....	.....

=====

=

Work zone Drum Area A

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504734
User ID: AHIBBARD Site ID: E672
Data Points: 17 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/22/2000 07:04
Start At: 08/22/2000 07:42 End At: 08/22/2000 10:22

=====

Sensor: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels: 35.0 50.0 10.0 10.0 19.5
STEL Alarm Levels: 100.0 25.0 15.0
TWA Alarm Levels: 35.0 10.0 10.0
=====

=====

Sensor: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
Peak Data Value: 2.6 0.0 0.0 0.5 21.5
Min Data Value: 0.2 0.0 0.0 0.0 20.8
TWA Data Value: 0.6 0.0 0.0
AVG Data Value: 1.7 0.0 0.0
=====

Work zone Drum Area A

DAILY FIELD MONITORING RESULTS

DATE: 8/22/00 to			
Time	Instrument	Location	Reading
0801	Sibata	Work zone monitoring SE corner of drum	0.021 mg/m ³
	Multi Rae	Area (DW)	VOC
		Dust	LEL
			H ₂ S
			O
0921	Sibata	"	
	Multi Rae	Dust	VOC 0.032 mg/m ³
			LEL
			H ₂ S
			O
1103	Sibata	"	0.085 mg/m ³
	Multi Rae		VOC
		Dust	LEL
			H ₂ S
			O
1344	Sibata	"	0.058 mg/m ³
	Multi Rae		VOC
			LEL
		Dust	H ₂ S
			O
1535	Sibata	"	0.017 mg/m ³
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 54 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/23/2000 07:58
Start At: 08/23/2000 08:29 End At: 08/23/2000 17:19

=====

Sensor: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels: 35.0 50.0 10.0 10.0 19.5
STEL Alarm Levels: 100.0 25.0 15.0
TWA Alarm Levels: 35.0 10.0 10.0
=====

=====

Sensor: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
Peak Data Value: 1.1 0.0 0.1 0.0 21.3
Min Data Value: 0.1 0.0 0.0 0.0 21.0
TWA Data Value: 0.6 0.0 0.0
AVG Data Value: 0.5 0.0 0.0
=====

=====

Work zone Drun Area A

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD Site ID: E672

Data Points: 54

Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 08/23/2000 07:58

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	08/23/2000 08:29	0.4	0.0	0.0	0.0	21.0
2	08/23/2000 08:39	0.4	0.0	0.0	0.0	21.1
3	08/23/2000 08:49	0.5	0.0	0.0	0.0	21.1
4	08/23/2000 08:59	0.4	0.0	0.0	0.0	21.1
5	08/23/2000 09:09	0.5	0.0	0.0	0.0	21.1
6	08/23/2000 09:19	0.7	0.0	0.0	0.0	21.1
7	08/23/2000 09:29	0.6	0.0	0.0	0.0	21.1
8	08/23/2000 09:39	0.6	0.0	0.0	0.0	21.1
9	08/23/2000 09:49	0.7	0.0	0.0	0.0	21.2
10	08/23/2000 09:59	0.7	0.0	0.0	0.0	21.2
11	08/23/2000 10:09	0.8	0.0	0.0	0.0	21.2
12	08/23/2000 10:19	0.9	0.0	0.0	0.0	21.2
13	08/23/2000 10:29	0.9	0.0	0.1	0.0	21.2
14	08/23/2000 10:39	0.9	0.0	0.0	0.0	21.2
15	08/23/2000 10:49	0.9	0.0	0.0	0.0	21.2
16	08/23/2000 10:59	1.1	0.0	0.0	0.0	21.2
17	08/23/2000 11:09	1.1	0.0	0.0	0.0	21.3
18	08/23/2000 11:19	0.9	0.0	0.0	0.0	21.3
19	08/23/2000 11:29	1.0	0.0	0.0	0.0	21.3
20	08/23/2000 11:39	0.8	0.0	0.0	0.0	21.3
21	08/23/2000 11:49	0.7	0.0	0.0	0.0	21.3
22	08/23/2000 11:59	0.6	0.0	0.0	0.0	21.2
23	08/23/2000 12:09	0.6	0.0	0.0	0.0	21.2
24	08/23/2000 12:19	0.5	0.0	0.0	0.0	21.2
25	08/23/2000 12:29	0.5	0.0	0.0	0.0	21.2
26	08/23/2000 12:39	0.5	0.0	0.0	0.0	21.2
27	08/23/2000 12:49	0.5	0.0	0.0	0.0	21.2
28	08/23/2000 12:59	0.5	0.0	0.0	0.0	21.2
29	08/23/2000 13:09	0.4	0.0	0.0	0.0	21.2
30	08/23/2000 13:19	0.5	0.0	0.0	0.0	21.2
31	08/23/2000 13:29	0.5	0.0	0.0	0.0	21.2
32	08/23/2000 13:39	0.4	0.0	0.0	0.0	21.2
33	08/23/2000 13:49	0.4	0.0	0.0	0.0	21.1
34	08/23/2000 13:59	0.4	0.0	0.0	0.0	21.1
35	08/23/2000 14:09	0.3	0.0	0.0	0.0	21.1
36	08/23/2000 14:19	0.3	0.0	0.0	0.0	21.1
37	08/23/2000 14:29	0.4	0.0	0.0	0.0	21.1
38	08/23/2000 14:39	0.3	0.0	0.0	0.0	21.2
39	08/23/2000 14:49	0.2	0.0	0.0	0.0	21.1
40	08/23/2000 14:59	0.3	0.0	0.0	0.0	21.1
41	08/23/2000 15:09	0.3	0.0	0.0	0.0	21.1
42	08/23/2000 15:19	0.3	0.0	0.0	0.0	21.1
43	08/23/2000 15:29	0.3	0.0	0.0	0.0	21.1
44	08/23/2000 15:39	0.2	0.0	0.0	0.0	21.2
45	08/23/2000 15:49	0.2	0.0	0.0	0.0	21.1
46	08/23/2000 15:59	0.2	0.0	0.0	0.0	21.1
47	08/23/2000 16:09	0.1	0.0	0.0	0.0	21.1

Work zone
Drum Area A

48	08/23/2000 16:19	0.1	0.0	0.0	0.0	21.1
49	08/23/2000 16:29	0.1	0.0	0.0	0.0	21.1
50	08/23/2000 16:39	0.1	0.0	0.0	0.0	21.1
51	08/23/2000 16:49	0.6	0.0	0.0	0.0	21.1
52	08/23/2000 16:59	0.2	0.0	0.0	0.0	21.1
53	08/23/2000 17:09	0.1	0.0	0.0	0.0	21.1
54	08/23/2000 17:19	0.2	0.0	0.0	0.0	21.1

work zone

Draw Area A

DAILY FIELD MONITORING RESULTS

DATE: 8/23/02

Dust monitoring

Time	Instrument	Location	Work zone	Drem Area A	Reading
0829	Sibata	"	Dust		0.029mg/m ³
	Multi Rae	"		VOC	
				LEL	
				H ₂ S	
				O	
1016	Sibata	"	Dust		0.036mg/m ³
	Multi Rae	"		VOC	
				LEL	
				H ₂ S	
1406	Sibata	"	Dust		0.031mg/m ³
	Multi Rae	"		VOC	
				LEL	
				H ₂ S	
				O	
1515	Sibata	"	Dust		0.034mg/m ³
	Multi Rae	"		VOC	
				LEL	
				H ₂ S	
				O	
	Sibata	"			
	Multi Rae	"		VOC	
				LEL	
				H ₂ S	
				O	
	Sibata	"			
	Multi Rae	"		VOC	
				LEL	
				H ₂ S	
				O	

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 52 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/24/2000 07:58
Start At: 08/24/2000 08:42 End At: 08/24/2000 17:12

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	4.0	0.0	0.0	0.2	21.7
Min Data Value:	0.5	0.0	0.0	0.0	21.0
TWA Data Value:	2.1	0.0	0.0	.....	.....
AVG Data Value:	1.9	0.0	0.0	.....	.....

=====

Work zone
Drum Area A

Instrument: Multi-gas Monitor (PGM50-5P)
User ID: AHIBBARD Site ID: E672
Data Points: 52 Data Type: Avg
Last Calibration Time: 08/24/2000 07:58

Serial Number: 504754

Sample Period: 600 sec

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
1	08/24/2000 08:42	0.5	0.0	0.0	0.0	21.0
2	08/24/2000 08:52	0.8	0.0	0.0	0.0	21.0
3	08/24/2000 09:02	0.9	0.0	0.0	0.0	21.1
4	08/24/2000 09:12	0.9	0.0	0.0	0.0	21.2
5	08/24/2000 09:22	1.1	0.0	0.0	0.0	21.2
6	08/24/2000 09:32	1.2	0.0	0.0	0.0	21.2
7	08/24/2000 09:42	1.3	0.0	0.0	0.0	21.2
8	08/24/2000 09:52	1.5	0.0	0.0	0.0	21.2
9	08/24/2000 10:02	1.6	0.0	0.0	0.0	21.3
10	08/24/2000 10:12	1.8	0.0	0.0	0.0	21.3
11	08/24/2000 10:22	1.8	0.0	0.0	0.0	21.3
12	08/24/2000 10:32	2.1	0.0	0.0	0.0	21.3
13	08/24/2000 10:42	2.3	0.0	0.0	0.0	21.3
14	08/24/2000 10:52	2.4	0.0	0.0	0.0	21.4
15	08/24/2000 11:02	2.5	0.0	0.0	0.0	21.4
16	08/24/2000 11:12	2.6	0.0	0.0	0.0	21.4
17	08/24/2000 11:22	2.7	0.0	0.0	0.0	21.4
18	08/24/2000 11:32	2.6	0.0	0.0	0.0	21.4
19	08/24/2000 11:42	2.6	0.0	0.0	0.0	21.4
20	08/24/2000 11:52	2.6	0.0	0.0	0.0	21.4
21	08/24/2000 12:02	2.7	0.0	0.0	0.1	21.3
22	08/24/2000 12:12	2.8	0.0	0.0	0.1	21.4
23	08/24/2000 12:22	2.9	0.0	0.0	0.1	21.3
24	08/24/2000 12:32	3.1	0.0	0.0	0.1	21.3
25	08/24/2000 12:42	3.3	0.0	0.0	0.2	21.2
26	08/24/2000 12:52	3.7	0.0	0.0	0.2	21.1
27	08/24/2000 13:02	4.0	0.0	0.0	0.1	21.5
28	08/24/2000 13:12	3.8	0.0	0.0	0.1	21.7
29	08/24/2000 13:22	3.2	0.0	0.0	0.0	21.7
30	08/24/2000 13:32	2.7	0.0	0.0	0.0	21.7
31	08/24/2000 13:42	2.3	0.0	0.0	0.0	21.6
32	08/24/2000 13:52	2.2	0.0	0.0	0.0	21.6
33	08/24/2000 14:02	1.8	0.0	0.0	0.0	21.6
34	08/24/2000 14:12	1.5	0.0	0.0	0.0	21.6
35	08/24/2000 14:22	1.3	0.0	0.0	0.0	21.5
36	08/24/2000 14:32	1.1	0.0	0.0	0.0	21.5
37	08/24/2000 14:42	0.9	0.0	0.0	0.0	21.5
38	08/24/2000 14:52	0.8	0.0	0.0	0.0	21.4
39	08/24/2000 15:02	0.8	0.0	0.0	0.0	21.4
40	08/24/2000 15:12	0.9	0.0	0.0	0.0	21.4
41	08/24/2000 15:22	1.1	0.0	0.0	0.1	21.4
42	08/24/2000 15:32	1.3	0.0	0.0	0.1	21.5
43	08/24/2000 15:42	1.3	0.0	0.0	0.0	21.6
44	08/24/2000 15:52	1.3	0.0	10.0	0.0	21.6
45	08/24/2000 16:02	1.3	0.0	0.0	0.0	21.6
46	08/24/2000 16:12	1.3	0.0	0.0	0.0	21.6
47	08/24/2000 16:22	1.4	0.0	0.0	0.1	21.6

=====

Work zone
Drum Area A

48	08/24/2000 16:32	1.5	0.0	0.0	0.1	21.6
49	08/24/2000 16:42	1.6	0.0	0.0	0.1	21.6
50	08/24/2000 16:52	1.7	0.0	0.0	0.1	21.6
51	08/24/2000 17:02	1.7	0.0	0.0	0.1	21.6
52	08/24/2000 17:12	1.6	0.0	0.0	0.0	21.6

Work zone
Drum Area A

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 24 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/25/2000 07:33
Start At: 08/25/2000 11:17 End At: 08/25/2000 15:07

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	1.0	14.0	0.1	0.3	21.2
Min Data Value:	0.0	0.0	0.0	0.0	20.9
TWA Data Value:	0.2	0.5	0.0	.....	.....
AVG Data Value:	0.5	1.0	0.0	.....	.....

=====

=

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 11 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/25/2000 07:33
Start At: 08/25/2000 15:54 End At: 08/25/2000 17:34

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	0.0	5.5	0.0	0.2	21.0
Min Data Value:	0.0	0.0	0.0	0.0	20.8
TWA Data Value:	0.0	0.2	0.0	.....	.....
AVG Data Value:	0.0	1.0	0.0	.....	.....

=====

=

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD Site ID: E672

Data Points: 24 Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 08/25/2000 07:33

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	08/25/2000 11:17	0.1	0.0	0.0	0.0	20.9
2	08/25/2000 11:27	0.3	0.0	0.1	0.0	20.9
3	08/25/2000 11:37	0.2	0.0	0.1	0.1	20.9
4	08/25/2000 11:47	0.3	0.0	0.1	0.1	20.9
5	08/25/2000 11:57	0.4	0.0	0.0	0.2	20.9
6	08/25/2000 12:07	0.3	0.0	0.0	0.2	20.9
7	08/25/2000 12:17	0.4	0.0	0.1	0.2	20.9
8	08/25/2000 12:27	0.6	0.0	0.1	0.3	20.9
9	08/25/2000 12:37	0.7	0.0	0.1	0.3	21.0
10	08/25/2000 12:47	0.8	0.0	0.0	0.3	21.1
11	08/25/2000 12:57	1.0	0.0	0.0	0.3	21.1
12	08/25/2000 13:07	1.0	0.0	0.0	0.3	21.1
13	08/25/2000 13:17	0.9	0.0	0.0	0.3	21.1
14	08/25/2000 13:27	0.8	0.0	0.0	0.3	21.1
15	08/25/2000 13:37	0.7	0.0	0.0	0.3	21.1
16	08/25/2000 13:47	0.7	0.0	0.0	0.3	21.1
17	08/25/2000 13:57	0.7	0.0	0.0	0.3	21.1
18	08/25/2000 14:07	0.6	0.1	0.0	0.3	21.1
19	08/25/2000 14:17	0.6	0.0	0.0	0.3	21.1
20	08/25/2000 14:27	0.4	0.0	0.0	0.1	21.2
21	08/25/2000 14:37	0.3	14.0	0.0	0.2	21.1
22	08/25/2000 14:47	0.0	3.0	0.0	0.1	21.1
23	08/25/2000 14:57	0.0	6.1	0.0	0.1	21.0
24	08/25/2000 15:07	0.0	0.1	0.0	0.1	20.9

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 11 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/25/2000 07:33

=====

Gas Type: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels: 35.0 50.0 10.0 10.0 19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	08/25/2000 15:54	0.0	2.6	0.0	0.1	21.0
2	08/25/2000 16:04	0.0	5.5	0.0	0.2	21.0
3	08/25/2000 16:14	0.0	0.7	0.0	0.1	21.0
4	08/25/2000 16:24	0.0	0.3	0.0	0.1	20.9
5	08/25/2000 16:34	0.0	1.0	0.0	0.0	21.0
6	08/25/2000 16:44	0.0	0.8	0.0	0.0	20.9
7	08/25/2000 16:54	0.0	0.0	0.0	0.0	20.9
8	08/25/2000 17:04	0.0	0.0	0.0	0.0	20.9
9	08/25/2000 17:14	0.0	0.1	0.0	0.0	20.8
10	08/25/2000 17:24	0.0	0.0	0.0	0.0	20.8
11	08/25/2000 17:34	0.0	0.0	0.0	0.0	20.8

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 38 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/26/2000 07:34
Start At: 08/26/2000 08:06 End At: 08/26/2000 14:16

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	0.1	20.0	0.0	0.0	21.5
Min Data Value:	0.0	0.0	0.0	0.0	20.9
TWA Data Value:	0.0	0.7	0.0	.....	.....
AVG Data Value:	0.0	0.9	0.0	.....	.....

=====

=

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD Site ID: E672

Data Points: 38 Data Type: Avg Sample Period: 600 sec

Last Calibration Time: 08/26/2000 07:34

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

=====

1	08/26/2000 08:06	0.0	10.7	0.0	0.0	20.9
2	08/26/2000 08:16	0.0	20.0	0.0	0.0	21.0
3	08/26/2000 08:26	0.0	0.7	0.0	0.0	21.0
4	08/26/2000 08:36	0.0	2.1	0.0	0.0	21.1
5	08/26/2000 08:46	0.0	1.8	0.0	0.0	21.1
6	08/26/2000 08:56	0.0	0.0	0.0	0.0	21.2
7	08/26/2000 09:06	0.0	0.0	0.0	0.0	21.2
8	08/26/2000 09:16	0.0	0.0	0.0	0.0	21.3
9	08/26/2000 09:26	0.0	0.0	0.0	0.0	21.3
10	08/26/2000 09:36	0.0	0.0	0.0	0.0	21.3
11	08/26/2000 09:46	0.0	0.0	0.0	0.0	21.4
12	08/26/2000 09:56	0.0	0.4	0.0	0.0	21.5
13	08/26/2000 10:06	0.0	0.0	0.0	0.0	21.5
14	08/26/2000 10:16	0.1	0.1	0.0	0.0	21.5
15	08/26/2000 10:26	0.0	0.0	0.0	0.0	21.5
16	08/26/2000 10:36	0.0	0.0	0.0	0.0	21.5
17	08/26/2000 10:46	0.0	0.0	0.0	0.0	21.5
18	08/26/2000 10:56	0.0	0.0	0.0	0.0	21.5
19	08/26/2000 11:06	0.0	0.0	0.0	0.0	21.5
20	08/26/2000 11:16	0.0	0.0	0.0	0.0	21.5
21	08/26/2000 11:26	0.0	0.0	0.0	0.0	21.5
22	08/26/2000 11:36	0.0	0.0	0.0	0.0	21.5
23	08/26/2000 11:46	0.0	0.0	0.0	0.0	21.5
24	08/26/2000 11:56	0.0	0.0	0.0	0.0	21.5
25	08/26/2000 12:06	0.0	0.0	0.0	0.0	21.5
26	08/26/2000 12:16	0.0	0.0	0.0	0.0	21.5
27	08/26/2000 12:26	0.0	0.0	0.0	0.0	21.5
28	08/26/2000 12:36	0.0	0.0	0.0	0.0	21.5
29	08/26/2000 12:46	0.0	0.0	0.0	0.0	21.5
30	08/26/2000 12:56	0.0	0.0	0.0	0.0	21.5
31	08/26/2000 13:06	0.0	0.0	0.0	0.0	21.5
32	08/26/2000 13:16	0.0	0.0	0.0	0.0	21.5
33	08/26/2000 13:26	0.0	0.0	0.0	0.0	21.5
34	08/26/2000 13:36	0.0	0.0	0.0	0.0	21.5
35	08/26/2000 13:46	0.0	0.0	0.0	0.0	21.5
36	08/26/2000 13:56	0.0	0.0	0.0	0.0	21.5
37	08/26/2000 14:06	0.0	0.0	0.0	0.0	21.5
38	08/26/2000 14:16	0.0	0.0	0.0	0.0	21.5

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 56 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/28/2000 07:43
Start At: 08/28/2000 08:04 End At: 08/28/2000 17:14

=====

Sensor: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels: 35.0 50.0 10.0 10.0 19.5
STEL Alarm Levels: 100.0 25.0 15.0
TWA Alarm Levels: 35.0 10.0 10.0
=====

=====

Sensor: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
Peak Data Value: 0.0 1.0 0.0 0.0 21.5
Min Data Value: 0.0 0.0 0.0 0.0 20.9
TWA Data Value: 0.0 0.0 0.0
AVG Data Value: 0.0 0.0 0.0
=====

Instrument: Multi-gas Monitor (PGM50-5P)
User ID: AHIBBARD Site ID: E672
Data Points: 56 Data Type: Avg
Last Calibration Time: 08/28/2000 07:43

Serial Number: 504754
Sample Period: 600 sec

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	08/28/2000 08:04	0.0	0.0	0.0	0.0	20.9
2	08/28/2000 08:14	0.0	0.0	0.0	0.0	20.9
3	08/28/2000 08:24	0.0	0.0	0.0	0.0	21.0
4	08/28/2000 08:34	0.0	0.0	0.0	0.0	21.0
5	08/28/2000 08:44	0.0	0.0	0.0	0.0	21.0
6	08/28/2000 08:54	0.0	0.0	0.0	0.0	21.1
7	08/28/2000 09:04	0.0	0.0	0.0	0.0	21.1
8	08/28/2000 09:14	0.0	0.0	0.0	0.0	21.1
9	08/28/2000 09:24	0.0	0.0	0.0	0.0	21.1
10	08/28/2000 09:34	0.0	0.0	0.0	0.0	21.2
11	08/28/2000 09:44	0.0	0.0	0.0	0.0	21.3
12	08/28/2000 09:54	0.0	0.0	0.0	0.0	21.4
13	08/28/2000 10:04	0.0	0.0	0.0	0.0	21.4
14	08/28/2000 10:14	0.0	0.0	0.0	0.0	21.4
15	08/28/2000 10:24	0.0	0.0	0.0	0.0	21.3
16	08/28/2000 10:34	0.0	0.0	0.0	0.0	21.3
17	08/28/2000 10:44	0.0	0.0	0.0	0.0	21.3
18	08/28/2000 10:54	0.0	0.0	0.0	0.0	21.3
19	08/28/2000 11:04	0.0	0.0	0.0	0.0	21.3
20	08/28/2000 11:14	0.0	0.0	0.0	0.0	21.4
21	08/28/2000 11:24	0.0	0.0	0.0	0.0	21.3
22	08/28/2000 11:34	0.0	0.0	0.0	0.0	21.3
23	08/28/2000 11:44	0.0	0.0	0.0	0.0	21.3
24	08/28/2000 11:54	0.0	0.0	0.0	0.0	21.4
25	08/28/2000 12:04	0.0	0.0	0.0	0.0	21.4
26	08/28/2000 12:14	0.0	0.0	0.0	0.0	21.4
27	08/28/2000 12:24	0.0	0.0	0.0	0.0	21.3
28	08/28/2000 12:34	0.0	0.0	0.0	0.0	21.3
29	08/28/2000 12:44	0.0	0.0	0.0	0.0	21.3
30	08/28/2000 12:54	0.0	0.0	0.0	0.0	21.3
31	08/28/2000 13:04	0.0	0.0	0.0	0.0	21.3
32	08/28/2000 13:14	0.0	0.9	0.0	0.0	21.3
33	08/28/2000 13:24	0.0	1.0	0.0	0.0	21.3
34	08/28/2000 13:34	0.0	0.0	0.0	0.0	21.3
35	08/28/2000 13:44	0.0	0.0	0.0	0.0	21.3
36	08/28/2000 13:54	0.0	0.0	0.0	0.0	21.4
37	08/28/2000 14:04	0.0	0.0	0.0	0.0	21.3
38	08/28/2000 14:14	0.0	0.0	0.0	0.0	21.3
39	08/28/2000 14:24	0.0	0.0	0.0	0.0	21.3
40	08/28/2000 14:34	0.0	0.0	0.0	0.0	21.3
41	08/28/2000 14:44	0.0	0.0	0.0	0.0	21.3
42	08/28/2000 14:54	0.0	0.0	0.0	0.0	21.2
43	08/28/2000 15:04	0.0	0.0	0.0	0.0	21.2
44	08/28/2000 15:14	0.0	0.0	0.0	0.0	21.3
45	08/28/2000 15:24	0.0	0.0	0.0	0.0	21.4
46	08/28/2000 15:34	0.0	0.0	0.0	0.0	21.5
47	08/28/2000 15:44	0.0	0.0	0.0	0.0	21.5

48	08/28/2000 15:54	0.0	0.0	0.0	0.0	21.5
49	08/28/2000 16:04	0.0	0.0	0.0	0.0	21.5
50	08/28/2000 16:14	0.0	0.0	0.0	0.0	21.4
51	08/28/2000 16:24	0.0	0.0	0.0	0.0	21.4
52	08/28/2000 16:34	0.0	0.0	0.0	0.0	21.5
53	08/28/2000 16:44	0.0	0.0	0.0	0.0	21.5
54	08/28/2000 16:54	0.0	0.0	0.0	0.0	21.4
55	08/28/2000 17:04	0.0	0.0	0.0	0.0	21.4
56	08/28/2000 17:14	0.0	0.0	0.0	0.0	21.3

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 41 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/29/2000 07:59
Start At: 08/29/2000 10:36 End At: 08/29/2000 17:16

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	0.0	0.0	0.0	0.0	21.4
Min Data Value:	0.0	0.0	0.0	0.0	21.2
TWA Data Value:	0.0	0.0	0.0	.....	.....
AVG Data Value:	0.0	0.0	0.0	.....	.....

=====

=

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 41 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/29/2000 07:59

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

=====

1	08/29/2000 10:36	0.0	0.0	0.0	0.0	21.4
2	08/29/2000 10:46	0.0	0.0	0.0	0.0	21.4
3	08/29/2000 10:56	0.0	0.0	0.0	0.0	21.4
4	08/29/2000 11:06	0.0	0.0	0.0	0.0	21.4
5	08/29/2000 11:16	0.0	0.0	0.0	0.0	21.4
6	08/29/2000 11:26	0.0	0.0	0.0	0.0	21.4
7	08/29/2000 11:36	0.0	0.0	0.0	0.0	21.4
8	08/29/2000 11:46	0.0	0.0	0.0	0.0	21.4
9	08/29/2000 11:56	0.0	0.0	0.0	0.0	21.4
10	08/29/2000 12:06	0.0	0.0	0.0	0.0	21.4
11	08/29/2000 12:16	0.0	0.0	0.0	0.0	21.4
12	08/29/2000 12:26	0.0	0.0	0.0	0.0	21.4
13	08/29/2000 12:36	0.0	0.0	0.0	0.0	21.4
14	08/29/2000 12:46	0.0	0.0	0.0	0.0	21.4
15	08/29/2000 12:56	0.0	0.0	0.0	0.0	21.4
16	08/29/2000 13:06	0.0	0.0	0.0	0.0	21.4
17	08/29/2000 13:16	0.0	0.0	0.0	0.0	21.4
18	08/29/2000 13:26	0.0	0.0	0.0	0.0	21.4
19	08/29/2000 13:36	0.0	0.0	0.0	0.0	21.4
20	08/29/2000 13:46	0.0	0.0	0.0	0.0	21.4
21	08/29/2000 13:56	0.0	0.0	0.0	0.0	21.3
22	08/29/2000 14:06	0.0	0.0	0.0	0.0	21.3
23	08/29/2000 14:16	0.0	0.0	0.0	0.0	21.3
24	08/29/2000 14:26	0.0	0.0	0.0	0.0	21.3
25	08/29/2000 14:36	0.0	0.0	0.0	0.0	21.3
26	08/29/2000 14:46	0.0	0.0	0.0	0.0	21.3
27	08/29/2000 14:56	0.0	0.0	0.0	0.0	21.3
28	08/29/2000 15:06	0.0	0.0	0.0	0.0	21.3
29	08/29/2000 15:16	0.0	0.0	0.0	0.0	21.3
30	08/29/2000 15:26	0.0	0.0	0.0	0.0	21.3
31	08/29/2000 15:36	0.0	0.0	0.0	0.0	21.3
32	08/29/2000 15:46	0.0	0.0	0.0	0.0	21.3
33	08/29/2000 15:56	0.0	0.0	0.0	0.0	21.3
34	08/29/2000 16:06	0.0	0.0	0.0	0.0	21.3
35	08/29/2000 16:16	0.0	0.0	0.0	0.0	21.3
36	08/29/2000 16:26	0.0	0.0	0.0	0.0	21.3
37	08/29/2000 16:36	0.0	0.0	0.0	0.0	21.2
38	08/29/2000 16:46	0.0	0.0	0.0	0.0	21.2
39	08/29/2000 16:56	0.0	0.0	0.0	0.0	21.2
40	08/29/2000 17:06	0.0	0.0	0.0	0.0	21.2
41	08/29/2000 17:16	0.0	0.0	0.0	0.0	21.2

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
 User ID: AHIBBARD Site ID: E672
 Data Points: 53 Data Type: Avg Sample Period: 600 sec
 Last Calibration Time: 08/30/2000 07:31

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	08/30/2000 08:03	0.0	0.0	0.0	0.0	20.9
2	08/30/2000 08:13	0.0	0.0	0.0	0.0	20.9
3	08/30/2000 08:23	0.0	0.2	0.0	0.0	20.9
4	08/30/2000 08:33	0.0	0.0	0.0	0.0	20.9
5	08/30/2000 08:43	0.0	0.1	0.0	0.0	21.0
6	08/30/2000 08:53	0.0	0.0	0.0	0.0	21.0
7	08/30/2000 09:03	0.0	0.0	0.0	0.0	21.0
8	08/30/2000 09:13	0.0	0.0	0.0	0.0	21.0
9	08/30/2000 09:23	0.0	0.0	0.0	0.0	21.0
10	08/30/2000 09:33	0.0	0.0	0.0	0.0	21.1
11	08/30/2000 09:43	0.0	0.0	0.0	0.0	21.0
12	08/30/2000 09:53	0.0	0.0	0.0	0.0	21.0
13	08/30/2000 10:03	0.0	0.3	0.0	0.1	21.1
14	08/30/2000 10:13	0.0	0.9	0.0	0.1	21.2
15	08/30/2000 10:23	0.0	0.0	0.0	0.1	21.3
16	08/30/2000 10:33	0.1	0.0	0.0	0.2	21.3
17	08/30/2000 10:43	0.1	0.0	0.0	0.1	21.3
18	08/30/2000 10:53	0.1	0.0	0.0	0.1	21.4
19	08/30/2000 11:03	0.2	0.0	0.0	0.1	21.4
20	08/30/2000 11:13	0.2	0.0	0.0	0.1	21.4
21	08/30/2000 11:23	0.3	0.0	0.0	0.1	21.4
22	08/30/2000 11:33	0.2	0.0	0.0	0.1	21.4
23	08/30/2000 11:43	0.2	0.0	0.0	0.1	21.4
24	08/30/2000 11:53	0.3	0.0	0.0	0.2	21.4
25	08/30/2000 12:03	0.5	0.0	0.0	0.2	21.4
26	08/30/2000 12:13	0.6	0.0	0.0	0.2	21.4
27	08/30/2000 12:23	0.7	0.0	0.0	0.2	21.5
28	08/30/2000 12:33	0.7	0.0	0.0	0.2	21.5
29	08/30/2000 12:43	0.7	0.0	0.0	0.2	21.5
30	08/30/2000 12:53	0.8	0.0	0.0	0.3	21.5
31	08/30/2000 13:03	0.8	0.0	0.0	0.3	21.4
32	08/30/2000 13:13	0.9	2.9	0.0	0.3	21.5
33	08/30/2000 13:23	0.7	3.2	0.0	0.2	21.6
34	08/30/2000 13:33	0.5	22.7	0.0	0.3	21.6
35	08/30/2000 13:43	0.4	5.1	0.0	0.1	21.5
36	08/30/2000 13:53	0.3	0.0	0.0	0.1	21.4
37	08/30/2000 14:03	0.4	0.0	0.0	0.2	21.4
38	08/30/2000 14:13	0.4	0.0	0.0	0.3	21.4
39	08/30/2000 14:23	0.4	0.0	0.0	0.3	21.4
40	08/30/2000 14:33	0.4	0.0	0.0	0.2	21.5
41	08/30/2000 14:43	0.2	0.0	0.0	0.1	21.5
42	08/30/2000 14:53	0.2	0.0	0.0	0.1	21.4
43	08/30/2000 15:03	0.1	0.1	0.0	0.2	21.4
44	08/30/2000 15:13	0.1	0.3	10.0	0.1	21.5
45	08/30/2000 15:23	0.0	0.0	0.0	0.0	21.5
46	08/30/2000 15:33	0.0	0.0	0.0	0.0	21.5
47	08/30/2000 15:43	0.0	0.0	0.0	0.0	21.5

48	08/30/2000 15:53	0.0	0.0	0.0	0.0	21.4
49	08/30/2000 16:03	0.0	0.0	0.0	0.0	21.4
50	08/30/2000 16:13	0.0	0.0	0.0	0.0	21.4
51	08/30/2000 16:23	0.0	0.0	0.0	0.1	21.3
52	08/30/2000 16:33	0.0	0.0	0.0	0.0	21.4
53	08/30/2000 16:43	0.0	0.0	0.0	0.0	21.4

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 53 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/30/2000 07:31
Start At: 08/30/2000 08:03 End At: 08/30/2000 16:43

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	0.9	22.7	0.0	0.3	21.6
Min Data Value:	0.0	0.0	0.0	0.0	20.9
TWA Data Value:	0.2	0.7	0.0	.....	.....
AVG Data Value:	0.2	0.7	0.0	.....	.....

=====

=

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD Site ID: E672

Data Points: 60 Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 08/31/2000 07:15

```
=====
=
Gas Type:          CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0  100.0  20.0    20.0   23.5
Low Alarm Levels:  35.0   50.0  10.0    10.0   19.5
=====
```

```
=====
=
Line#   Date Time   CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
=====
```

```
=====
1 08/31/2000 07:43    0.0    0.0    0.0    0.0   21.0
2 08/31/2000 07:53    0.0    0.0    0.0    0.0   21.0
3 08/31/2000 08:03    0.0    4.4    0.0    0.0   21.0
4 08/31/2000 08:13    0.0    3.6    0.0    0.0   21.0
5 08/31/2000 08:23    0.0    0.6    0.0    0.0   21.0
6 08/31/2000 08:33    0.0    0.6    0.0    0.0   21.0
7 08/31/2000 08:43    0.0    0.0    0.0    0.0   21.0
8 08/31/2000 08:53    0.0    0.0    0.0    0.0   21.0
9 08/31/2000 09:03    0.0    0.5    0.0    0.0   21.1
10 08/31/2000 09:13    0.0    1.4    0.1    0.0   21.1
11 08/31/2000 09:23    0.0    0.0    0.0    0.0   21.1
12 08/31/2000 09:33    0.0    0.0    0.0    0.0   21.1
13 08/31/2000 09:43    0.0    0.0    0.0    0.0   21.2
14 08/31/2000 09:53    0.0    0.8    0.0    0.0   21.2
15 08/31/2000 10:03    0.0    0.1    0.0    0.0   21.2
16 08/31/2000 10:13    0.0    0.0    0.0    0.0   21.3
17 08/31/2000 10:23    0.0    0.0    0.0    0.0   21.2
18 08/31/2000 10:33    0.0    0.0    0.0    0.1   21.2
19 08/31/2000 10:43    0.0    0.0    0.0    0.3   21.2
20 08/31/2000 10:53    0.0    0.0    0.0    0.3   21.3
21 08/31/2000 11:03    0.1    0.0    0.0    0.3   21.3
22 08/31/2000 11:13    0.2    0.0    0.0    0.3   21.4
23 08/31/2000 11:23    0.2    0.0    0.0    0.3   21.4
24 08/31/2000 11:33    0.2    0.0    0.0    0.3   21.4
25 08/31/2000 11:43    0.2    0.0    0.0    0.1   21.5
26 08/31/2000 11:53    0.1    0.0    0.0    0.0   21.5
27 08/31/2000 12:03    0.0    0.0    0.0    0.0   21.5
28 08/31/2000 12:13    0.0    0.0    0.0    0.0   21.5
29 08/31/2000 12:23    0.0    0.0    0.0    0.0   21.5
30 08/31/2000 12:33    0.0    0.0    0.0    0.0   21.5
31 08/31/2000 12:43    0.0    0.0    0.0    0.0   21.5
32 08/31/2000 12:53    0.0    0.0    0.0    0.0   21.5
33 08/31/2000 13:03    0.0    0.0    0.0    0.0   21.4
34 08/31/2000 13:13    0.0    0.0    0.0    0.0   21.4
35 08/31/2000 13:23    0.0    0.0    0.0    0.0   21.5
36 08/31/2000 13:33    0.0    0.0    0.0    0.0   21.4
37 08/31/2000 13:43    0.0    0.0    0.0    0.0   21.4
38 08/31/2000 13:53    0.0    0.0    0.0    0.0   21.4
39 08/31/2000 14:03    0.0    0.0    0.0    0.0   21.4
40 08/31/2000 14:13    0.0    0.0    0.0    0.1   21.4
41 08/31/2000 14:23    0.0    0.0    0.0    0.1   21.4
42 08/31/2000 14:33    0.0    0.0    0.0    0.2   21.4
43 08/31/2000 14:43    0.0    0.0    0.0    0.3   21.4
44 08/31/2000 14:53    0.2    0.0    0.0    0.3   21.4
45 08/31/2000 15:03    0.3    0.0    0.0    0.3   21.4
46 08/31/2000 15:13    0.4    0.0    0.0    0.3   21.4
47 08/31/2000 15:23    0.4    0.0    0.0    0.3   21.4
=====
```

48	08/31/2000 15:33	0.6	0.0	0.0	0.3	21.4
49	08/31/2000 15:43	0.6	0.0	0.0	0.3	21.4
50	08/31/2000 15:53	0.6	0.0	0.0	0.3	21.4
51	08/31/2000 16:03	0.4	0.0	0.0	0.2	21.5
52	08/31/2000 16:13	0.3	0.0	0.0	0.2	21.5
53	08/31/2000 16:23	0.2	0.0	0.0	0.2	21.5
54	08/31/2000 16:33	0.1	0.0	0.0	0.2	21.5
55	08/31/2000 16:43	0.0	0.0	0.0	0.1	21.6
56	08/31/2000 16:53	0.0	0.0	0.0	0.0	21.6
57	08/31/2000 17:03	0.0	0.0	0.0	0.0	21.6
58	08/31/2000 17:13	0.0	0.0	0.0	0.0	21.5
59	08/31/2000 17:23	1.0	0.0	0.0	0.1	21.5
60	08/31/2000 17:33	0.7	0.0	0.0	0.0	21.5

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 60 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 08/31/2000 07:15
Start At: 08/31/2000 07:43 End At: 08/31/2000 17:33

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	1.0	4.4	0.1	0.3	21.6
Min Data Value:	0.0	0.0	0.0	0.0	21.0
TWA Data Value:	0.1	0.3	0.0	.....	.....
AVG Data Value:	0.1	0.2	0.0	.....	.....

=====

=

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 22 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/01/2000 07:09

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

=====

1	09/01/2000 07:40	0.0	0.0	0.0	0.0	20.9
2	09/01/2000 07:50	0.0	0.0	0.0	0.0	20.9
3	09/01/2000 08:00	0.0	0.0	0.0	0.0	21.0
4	09/01/2000 08:10	0.0	0.0	0.0	0.0	21.0
5	09/01/2000 08:20	0.0	0.0	0.0	0.0	21.0
6	09/01/2000 08:30	0.0	0.0	0.0	0.0	21.1
7	09/01/2000 08:40	0.0	0.0	0.0	0.0	21.1
8	09/01/2000 08:50	0.0	0.0	0.0	0.0	21.2
9	09/01/2000 09:00	0.0	0.0	0.0	0.0	21.2
10	09/01/2000 09:10	0.0	0.0	0.0	0.0	21.2
11	09/01/2000 09:20	0.0	0.0	0.0	0.0	21.2
12	09/01/2000 09:30	0.0	0.0	0.0	0.0	21.3
13	09/01/2000 09:40	0.1	0.0	0.0	0.0	21.2
14	09/01/2000 09:50	0.3	0.0	0.0	0.0	21.3
15	09/01/2000 10:00	0.4	0.0	0.0	0.0	21.3
16	09/01/2000 10:10	0.6	0.0	0.0	0.0	21.3
17	09/01/2000 10:20	0.7	0.0	0.0	0.0	21.3
18	09/01/2000 10:30	0.5	0.0	0.0	0.0	21.4
19	09/01/2000 10:40	0.5	0.0	0.0	0.0	21.4
20	09/01/2000 10:50	0.2	0.0	0.0	0.0	21.3
21	09/01/2000 11:00	0.2	0.0	0.0	0.0	21.3
22	09/01/2000 11:10	0.1	0.0	0.0	0.0	21.4

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 22 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/01/2000 07:09
Start At: 09/01/2000 07:40 End At: 09/01/2000 11:10

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	-----	-----
TWA Alarm Levels:	35.0	10.0	10.0	-----	-----

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	0.7	0.0	0.0	0.0	21.4
Min Data Value:	0.0	0.0	0.0	0.0	20.9
TWA Data Value:	0.1	0.0	0.0	-----	-----
AVG Data Value:	0.2	0.0	0.0	-----	-----

=====

=

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 40 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/05/2000 10:03

Gas Type: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels: 35.0 50.0 10.0 10.0 19.5

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

1	09/05/2000 10:28	0.0	0.0	0.0	0.0	21.2
2	09/05/2000 10:38	0.0	0.0	0.0	0.0	21.2
3	09/05/2000 10:48	0.0	0.0	0.0	0.0	21.2
4	09/05/2000 10:58	0.0	0.0	0.0	0.0	21.2
5	09/05/2000 11:08	0.0	0.0	0.0	0.0	21.1
6	09/05/2000 11:18	0.0	0.0	0.0	0.0	21.2
7	09/05/2000 11:28	0.0	0.0	0.0	0.0	21.1
8	09/05/2000 11:38	0.0	0.0	0.0	0.0	21.1
9	09/05/2000 11:48	0.0	0.0	0.0	0.0	21.1
10	09/05/2000 11:58	0.0	0.0	0.0	0.0	21.2
11	09/05/2000 12:08	0.0	0.0	0.0	0.0	21.2
12	09/05/2000 12:18	0.0	0.0	0.0	0.0	21.3
13	09/05/2000 12:28	0.0	0.0	0.0	0.0	21.3
14	09/05/2000 12:38	0.0	0.0	0.0	0.0	21.3
15	09/05/2000 12:48	0.0	0.0	0.0	0.0	21.4
16	09/05/2000 12:58	0.0	0.0	0.0	0.0	21.4
17	09/05/2000 13:08	0.0	0.0	0.0	0.0	21.4
18	09/05/2000 13:18	0.0	0.0	0.0	0.0	21.5
19	09/05/2000 13:28	0.0	0.0	0.0	0.0	21.4
20	09/05/2000 13:38	0.0	0.0	0.0	0.0	21.4
21	09/05/2000 13:48	0.0	0.0	0.0	0.0	21.3
22	09/05/2000 13:58	0.0	0.0	0.0	0.0	21.4
23	09/05/2000 14:08	0.0	0.0	0.0	0.0	21.5
24	09/05/2000 14:18	0.0	0.0	0.0	0.0	21.4
25	09/05/2000 14:28	0.0	0.0	0.0	0.0	21.3
26	09/05/2000 14:38	0.0	0.0	0.0	0.0	21.3
27	09/05/2000 14:48	0.0	0.0	0.0	0.0	21.2
28	09/05/2000 14:58	0.0	0.0	0.0	0.0	21.2
29	09/05/2000 15:08	0.0	0.0	0.0	0.0	21.1
30	09/05/2000 15:18	0.0	0.0	0.0	0.0	21.2
31	09/05/2000 15:28	0.0	0.0	0.0	0.0	21.3
32	09/05/2000 15:38	0.0	0.0	0.0	0.0	21.3
33	09/05/2000 15:48	0.0	0.0	0.0	0.0	21.4
34	09/05/2000 15:58	0.0	0.0	0.0	0.0	21.4
35	09/05/2000 16:08	0.0	0.0	0.0	0.0	21.4
36	09/05/2000 16:18	0.0	0.0	0.0	0.0	21.4
37	09/05/2000 16:28	0.0	0.0	0.0	0.0	21.4
38	09/05/2000 16:38	0.0	0.0	0.0	0.0	21.4
39	09/05/2000 16:48	0.0	0.0	0.0	0.0	21.3
40	09/05/2000 16:58	0.7	0.0	0.0	0.0	21.3

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 40 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/05/2000 10:03
Start At: 09/05/2000 10:28 End At: 09/05/2000 16:58

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	0.7	0.0	0.0	0.0	21.5
Min Data Value:	0.0	0.0	0.0	0.0	21.1
TWA Data Value:	0.0	0.0	0.0	.....	.....
AVG Data Value:	0.0	0.0	0.0	.....	.....

=====

=

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 52 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/06/2000 06:59

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	09/06/2000 08:09	0.0	0.0	0.0	0.0	21.0
2	09/06/2000 08:19	0.0	0.0	0.0	0.0	20.9
3	09/06/2000 08:29	0.0	0.0	0.0	0.0	21.0
4	09/06/2000 08:39	0.0	0.0	0.0	0.0	21.0
5	09/06/2000 08:49	0.0	0.0	0.0	0.0	21.0
6	09/06/2000 08:59	0.0	0.0	0.0	0.1	21.0
7	09/06/2000 09:09	0.0	0.0	0.0	0.1	21.1
8	09/06/2000 09:19	0.0	0.4	0.0	0.1	21.1
9	09/06/2000 09:29	0.0	0.5	0.1	0.1	21.1
10	09/06/2000 09:39	0.0	0.3	0.0	0.2	21.2
11	09/06/2000 09:49	0.0	0.6	0.0	0.2	21.3
12	09/06/2000 09:59	0.0	0.0	0.0	0.1	21.3
13	09/06/2000 10:09	0.0	0.0	0.0	0.2	21.2
14	09/06/2000 10:19	0.0	0.0	0.0	0.3	21.2
15	09/06/2000 10:29	0.0	0.0	0.0	0.3	21.3
16	09/06/2000 10:39	0.0	0.0	0.0	0.3	21.4
17	09/06/2000 10:49	0.0	0.0	0.0	0.2	21.4
18	09/06/2000 10:59	0.0	0.0	0.0	0.3	21.4
19	09/06/2000 11:09	0.0	0.0	0.0	0.3	21.4
20	09/06/2000 11:19	0.0	0.0	0.0	0.4	21.5
21	09/06/2000 11:29	0.0	0.0	0.0	0.4	21.5
22	09/06/2000 11:39	0.0	0.0	0.0	0.4	21.5
23	09/06/2000 11:49	0.0	0.0	0.0	0.4	21.5
24	09/06/2000 11:59	0.0	0.0	0.0	0.5	21.6
25	09/06/2000 12:09	0.0	0.0	0.0	0.4	21.6
26	09/06/2000 12:19	0.0	0.0	0.0	0.5	21.6
27	09/06/2000 12:29	0.0	0.0	0.0	0.4	21.7
28	09/06/2000 12:39	0.0	0.0	0.0	0.4	21.7
29	09/06/2000 12:49	0.0	0.0	0.0	0.4	21.7
30	09/06/2000 12:59	0.0	0.0	0.0	0.5	21.7
31	09/06/2000 13:09	0.0	0.0	0.0	0.5	21.7
32	09/06/2000 13:19	0.0	0.0	0.0	0.5	21.7
33	09/06/2000 13:29	0.0	0.3	0.0	0.4	21.9
34	09/06/2000 13:39	0.0	1.4	0.0	0.3	21.8
35	09/06/2000 13:49	0.0	1.4	0.0	0.3	21.7
36	09/06/2000 13:59	0.0	2.8	0.0	0.2	21.7
37	09/06/2000 14:09	0.0	2.5	0.0	0.2	21.6
38	09/06/2000 14:19	0.0	2.6	0.0	0.2	21.6
39	09/06/2000 14:29	0.0	1.5	0.0	0.2	21.6
40	09/06/2000 14:39	0.0	1.1	0.0	0.2	21.6
41	09/06/2000 14:49	0.0	0.9	0.0	0.2	21.6
42	09/06/2000 14:59	0.0	11.0	0.0	0.3	21.6
43	09/06/2000 15:09	0.0	6.1	0.0	0.2	21.6
44	09/06/2000 15:19	0.0	0.8	0.0	0.1	21.5
45	09/06/2000 15:29	0.0	0.9	0.0	0.2	21.5
46	09/06/2000 15:39	0.0	0.3	0.0	0.2	21.5
47	09/06/2000 15:49	0.0	0.6	0.0	0.2	21.5

=====

48	09/06/2000 15:59	0.0	3.2	0.0	0.2	21.5
49	09/06/2000 16:09	0.0	0.1	0.0	0.1	21.5
50	09/06/2000 16:19	0.0	0.3	0.0	0.0	21.5
51	09/06/2000 16:29	0.0	0.0	0.0	0.0	21.5
52	09/06/2000 16:39	0.0	0.0	0.0	0.0	21.4

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 52 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/06/2000 06:59
Start At: 09/06/2000 08:09 End At: 09/06/2000 16:39

=
Sensor: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels: 35.0 50.0 10.0 10.0 19.5
STEL Alarm Levels: 100.0 25.0 15.0 ---- ----
TWA Alarm Levels: 35.0 10.0 10.0 ---- ----
=====

=
Sensor: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
Peak Data Value: 0.0 11.0 0.1 0.5 21.9
Min Data Value: 0.0 0.0 0.0 0.0 20.9
TWA Data Value: 0.0 0.8 0.0 ---- ----
AVG Data Value: 0.0 0.8 0.0 ---- ----
=====

DAILY FIELD MONITORING RESULTS

DATE:

Real time

Time	Instrument	Location	Reading
0814	Sibata	Dust Monitoring Area A	0.010 mg/l
	Multi Rae	Work zone Dust	
		VOC	
		LEL	
		H ₂ S	
		O	
1031	Sibata	" "	0.015 mg/l
	Multi Rae		
		VOC	
		LEL	
		H ₂ S	
1242	Sibata	" "	0.016 mg/l
	Multi Rae		
		VOC	
		LEL	
		H ₂ S	
		O	
1502	Sibata	" "	0.021 mg/l
	Multi Rae		
		VOC	
		LEL	
		H ₂ S	
		O	
	Sibata		
	Multi Rae		
		VOC	
		LEL	
		H ₂ S	
		O	
	Sibata		
	Multi Rae		
		VOC	
		LEL	
		H ₂ S	
		O	

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 52 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/07/2000 07:04
Start At: 09/07/2000 08:24 End At: 09/07/2000 16:54

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	0.2	29.0	0.0	0.0	22.0
Min Data Value:	0.0	0.0	0.0	0.0	21.0
TWA Data Value:	0.0	2.0	0.0	.....	.....
AVG Data Value:	0.0	1.8	0.0	.....	.....

=====

=

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 52 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/07/2000 07:04

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	09/07/2000 08:24	0.0	29.0	0.0	0.0	21.1
2	09/07/2000 08:34	0.0	0.2	0.0	0.0	21.1
3	09/07/2000 08:44	0.0	0.0	0.0	0.0	21.1
4	09/07/2000 08:54	0.0	0.0	0.0	0.0	21.1
5	09/07/2000 09:04	0.0	0.0	0.0	0.0	21.1
6	09/07/2000 09:14	0.0	0.0	0.0	0.0	21.1
7	09/07/2000 09:24	0.0	0.0	0.0	0.0	21.0
8	09/07/2000 09:34	0.0	8.4	0.0	0.0	21.0
9	09/07/2000 09:44	0.0	1.9	0.0	0.0	21.1
10	09/07/2000 09:54	0.0	0.2	0.0	0.0	21.2
11	09/07/2000 10:04	0.0	0.6	0.0	0.0	21.2
12	09/07/2000 10:14	0.0	0.4	0.0	0.0	21.3
13	09/07/2000 10:24	0.0	6.0	0.0	0.0	21.3
14	09/07/2000 10:34	0.0	2.5	0.0	0.0	21.4
15	09/07/2000 10:44	0.0	0.0	0.0	0.0	21.5
16	09/07/2000 10:54	0.0	0.0	0.0	0.0	21.5
17	09/07/2000 11:04	0.0	0.0	0.0	0.0	21.4
18	09/07/2000 11:14	0.0	0.0	0.0	0.0	21.4
19	09/07/2000 11:24	0.0	0.0	0.0	0.0	21.5
20	09/07/2000 11:34	0.0	0.0	0.0	0.0	21.5
21	09/07/2000 11:44	0.0	0.0	0.0	0.0	21.5
22	09/07/2000 11:54	0.0	0.0	0.0	0.0	21.6
23	09/07/2000 12:04	0.0	0.0	0.0	0.0	21.8
24	09/07/2000 12:14	0.0	0.0	0.0	0.0	21.8
25	09/07/2000 12:24	0.0	0.0	0.0	0.0	21.8
26	09/07/2000 12:34	0.0	0.0	0.0	0.0	21.9
27	09/07/2000 12:44	0.0	0.0	0.0	0.0	22.0
28	09/07/2000 12:54	0.0	0.0	0.0	0.0	22.0
29	09/07/2000 13:04	0.0	0.0	0.0	0.0	21.9
30	09/07/2000 13:14	0.0	7.3	0.0	0.0	21.8
31	09/07/2000 13:24	0.0	1.3	0.0	0.0	21.7
32	09/07/2000 13:34	0.0	4.1	0.0	0.0	21.7
33	09/07/2000 13:44	0.2	21.5	0.0	0.0	21.7
34	09/07/2000 13:54	0.0	0.0	0.0	0.0	21.7
35	09/07/2000 14:04	0.0	0.0	0.0	0.0	21.8
36	09/07/2000 14:14	0.0	0.0	0.0	0.0	21.7
37	09/07/2000 14:24	0.0	0.0	0.0	0.0	21.7
38	09/07/2000 14:34	0.0	0.0	0.0	0.0	21.6
39	09/07/2000 14:44	0.0	0.0	0.0	0.0	21.6
40	09/07/2000 14:54	0.0	0.0	0.0	0.0	21.6
41	09/07/2000 15:04	0.0	0.0	0.0	0.0	21.6
42	09/07/2000 15:14	0.0	0.0	0.0	0.0	21.5
43	09/07/2000 15:24	0.0	0.0	0.0	0.0	21.5
44	09/07/2000 15:34	0.0	4.3	10.0	0.0	21.4
45	09/07/2000 15:44	0.0	6.3	0.0	0.0	21.5
46	09/07/2000 15:54	0.0	0.3	0.0	0.0	21.7
47	09/07/2000 16:04	0.0	0.0	0.0	0.0	21.7

48	09/07/2000 16:14	0.0	0.0	0.0	0.0	21.8
49	09/07/2000 16:24	0.0	0.0	0.0	0.0	21.7
50	09/07/2000 16:34	0.0	0.0	0.0	0.0	21.7
51	09/07/2000 16:44	0.0	0.0	0.0	0.0	21.6
52	09/07/2000 16:54	0.0	0.0	0.0	0.0	21.6

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 50 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/08/2000 07:10
Start At: 09/08/2000 08:02 End At: 09/08/2000 16:12

=
Sensor: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels: 35.0 50.0 10.0 10.0 19.5
STEL Alarm Levels: 100.0 25.0 15.0
TWA Alarm Levels: 35.0 10.0 10.0
=====

=
Sensor: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
Peak Data Value: 1.3 7.8 0.1 0.6 21.6
Min Data Value: 0.0 0.0 0.0 0.0 20.9
TWA Data Value: 0.6 0.8 0.0
AVG Data Value: 0.6 0.7 0.0
=====

Instrument: Multi-gas Monitor (PGM50-5P)
User ID: AHIBBARD Site ID: E672
Data Points: 50 Data Type: Avg
Last Calibration Time: 09/08/2000 07:10

Serial Number: 504754

Sample Period: 600 sec

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

=====

1	09/08/2000 08:02	0.1	0.0	0.0	0.0	21.0
2	09/08/2000 08:12	0.1	0.0	0.0	0.0	21.0
3	09/08/2000 08:22	0.3	0.0	0.0	0.0	21.0
4	09/08/2000 08:32	0.1	0.0	0.0	0.0	21.0
5	09/08/2000 08:42	0.0	0.0	0.0	0.0	20.9
6	09/08/2000 08:52	0.1	0.0	0.0	0.0	20.9
7	09/08/2000 09:02	0.1	0.0	0.0	0.0	20.9
8	09/08/2000 09:12	0.1	0.0	0.0	0.0	20.9
9	09/08/2000 09:22	0.1	0.3	0.0	0.0	20.9
10	09/08/2000 09:32	0.1	0.7	0.0	0.0	20.9
11	09/08/2000 09:42	0.4	0.1	0.0	0.0	20.9
12	09/08/2000 09:52	0.3	2.0	0.0	0.0	21.0
13	09/08/2000 10:02	0.3	7.8	0.0	0.0	21.0
14	09/08/2000 10:12	0.3	3.2	0.0	0.0	21.1
15	09/08/2000 10:22	0.4	1.4	0.0	0.0	21.1
16	09/08/2000 10:32	0.5	0.0	0.0	0.0	21.1
17	09/08/2000 10:42	0.4	0.0	0.0	0.0	21.1
18	09/08/2000 10:52	0.4	1.9	0.0	0.0	21.1
19	09/08/2000 11:02	0.5	1.5	0.0	0.1	21.1
20	09/08/2000 11:12	0.4	0.0	0.0	0.1	21.2
21	09/08/2000 11:22	0.4	0.0	0.0	0.0	21.2
22	09/08/2000 11:32	0.4	0.0	0.0	0.0	21.2
23	09/08/2000 11:42	0.4	0.0	0.0	0.0	21.2
24	09/08/2000 11:52	0.4	0.0	0.0	0.0	21.2
25	09/08/2000 12:02	0.5	0.0	0.0	0.0	21.2
26	09/08/2000 12:12	0.4	0.0	0.0	0.0	21.2
27	09/08/2000 12:22	0.4	0.0	0.0	0.0	21.2
28	09/08/2000 12:32	0.5	0.0	0.0	0.1	21.2
29	09/08/2000 12:42	0.5	0.0	0.0	0.0	21.2
30	09/08/2000 12:52	0.7	0.5	0.0	0.3	21.2
31	09/08/2000 13:02	0.9	0.6	0.1	0.4	21.2
32	09/08/2000 13:12	1.1	0.0	0.0	0.4	21.3
33	09/08/2000 13:22	1.1	0.5	0.0	0.4	21.4
34	09/08/2000 13:32	1.2	1.0	0.0	0.4	21.5
35	09/08/2000 13:42	1.2	3.0	0.0	0.5	21.5
36	09/08/2000 13:52	1.2	5.6	0.0	0.6	21.5
37	09/08/2000 14:02	1.3	3.2	0.0	0.5	21.6
38	09/08/2000 14:12	1.1	0.2	0.0	0.4	21.6
39	09/08/2000 14:22	1.0	0.1	0.0	0.4	21.6
40	09/08/2000 14:32	0.9	0.1	0.0	0.4	21.6
41	09/08/2000 14:42	1.1	0.0	0.0	0.4	21.6
42	09/08/2000 14:52	1.0	1.3	0.0	0.4	21.6
43	09/08/2000 15:02	1.0	0.1	0.0	0.3	21.6
44	09/08/2000 15:12	1.1	0.1	0.0	0.3	21.6
45	09/08/2000 15:22	0.9	0.3	0.0	0.4	21.5
46	09/08/2000 15:32	1.0	0.5	0.0	0.4	21.5
47	09/08/2000 15:42	0.8	0.3	0.0	0.3	21.6

=====

48	09/08/2000 15:52	0.8	0.6	0.0	0.2	21.6
49	09/08/2000 16:02	0.8	0.1	0.0	0.2	21.5
50	09/08/2000 16:12	0.7	0.0	0.0	0.2	21.5

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 38 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/11/2000 07:11
Start At: 09/11/2000 10:38 End At: 09/11/2000 16:48

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	1.9	3.7	0.0	0.0	21.7
Min Data Value:	0.3	0.0	0.0	0.0	21.0
TWA Data Value:	0.9	0.3	0.0	.....	.....
AVG Data Value:	1.1	0.4	0.0	.....	.....

=====

=

Instrument: Multi-gas Monitor (PGM50-5P)
User ID: AHIBBARD Site ID: E672
Data Points: 38 Data Type: Avg
Last Calibration Time: 09/11/2000 07:11

Serial Number: 504754

Sample Period: 600 sec

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	09/11/2000 10:38	0.4	0.0	0.0	0.0	21.0
2	09/11/2000 10:48	0.6	0.0	0.0	0.0	21.0
3	09/11/2000 10:58	0.6	0.0	0.0	0.0	21.1
4	09/11/2000 11:08	0.8	0.0	0.0	0.0	21.1
5	09/11/2000 11:18	1.0	0.0	0.0	0.0	21.2
6	09/11/2000 11:28	1.1	0.0	0.0	0.0	21.3
7	09/11/2000 11:38	1.3	0.0	0.0	0.0	21.3
8	09/11/2000 11:48	1.3	0.0	0.0	0.0	21.4
9	09/11/2000 11:58	1.4	0.0	0.0	0.0	21.5
10	09/11/2000 12:08	1.4	0.0	0.0	0.0	21.5
11	09/11/2000 12:18	1.5	0.0	0.0	0.0	21.5
12	09/11/2000 12:28	1.5	0.0	0.0	0.0	21.5
13	09/11/2000 12:38	1.4	0.0	0.0	0.0	21.6
14	09/11/2000 12:48	1.5	0.0	0.0	0.0	21.6
15	09/11/2000 12:58	1.5	2.5	0.0	0.0	21.5
16	09/11/2000 13:08	1.7	3.7	0.0	0.0	21.5
17	09/11/2000 13:18	1.9	1.4	0.0	0.0	21.6
18	09/11/2000 13:28	1.8	0.9	0.0	0.0	21.6
19	09/11/2000 13:38	1.8	0.8	0.0	0.0	21.6
20	09/11/2000 13:48	1.5	0.4	0.0	0.0	21.7
21	09/11/2000 13:58	1.6	0.4	0.0	0.0	21.6
22	09/11/2000 14:08	1.5	0.4	0.0	0.0	21.6
23	09/11/2000 14:18	1.3	0.3	0.0	0.0	21.6
24	09/11/2000 14:28	1.3	0.4	0.0	0.0	21.6
25	09/11/2000 14:38	1.3	0.5	0.0	0.0	21.5
26	09/11/2000 14:48	1.2	0.4	0.0	0.0	21.6
27	09/11/2000 14:58	1.0	0.3	0.0	0.0	21.6
28	09/11/2000 15:08	1.0	0.3	0.0	0.0	21.6
29	09/11/2000 15:18	1.0	0.3	0.0	0.0	21.6
30	09/11/2000 15:28	1.0	0.2	0.0	0.0	21.6
31	09/11/2000 15:38	0.9	0.2	0.0	0.0	21.6
32	09/11/2000 15:48	0.9	0.2	0.0	0.0	21.5
33	09/11/2000 15:58	0.8	0.2	0.0	0.0	21.6
34	09/11/2000 16:08	0.7	0.1	0.0	0.0	21.6
35	09/11/2000 16:18	0.8	0.2	0.0	0.0	21.6
36	09/11/2000 16:28	0.5	0.1	0.0	0.0	21.6
37	09/11/2000 16:38	0.4	0.0	0.0	0.0	21.5
38	09/11/2000 16:48	0.3	0.0	0.0	0.0	21.5

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 34 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/12/2000 09:17
Start At: 09/12/2000 09:25 End At: 09/12/2000 14:55

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	-----	-----
TWA Alarm Levels:	35.0	10.0	10.0	-----	-----

=====

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	0.0	0.0	0.0	0.0	21.1
Min Data Value:	0.0	0.0	0.0	0.0	20.8
TWA Data Value:	0.0	0.0	0.0	-----	-----
AVG Data Value:	0.0	0.0	0.0	-----	-----

=====

=

48	09/08/2000 15:52	0.8	0.6	0.0	0.2	21.6
49	09/08/2000 16:02	0.8	0.1	0.0	0.2	21.5
50	09/08/2000 16:12	0.7	0.0	0.0	0.2	21.5

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD Site ID: E672

Data Points: 34

Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 09/12/2000 09:17

```
=====
=
Gas Type:          CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
High Alarm Levels: 200.0  100.0  20.0   20.0   23.5
Low Alarm Levels:  35.0   50.0  10.0   10.0   19.5
=====
```

```
=====
=
Line#   Date Time   CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
=====
```

```
=====
1 09/12/2000 09:25    0.0    0.0    0.0    0.0    20.8
2 09/12/2000 09:35    0.0    0.0    0.0    0.0    20.9
3 09/12/2000 09:45    0.0    0.0    0.0    0.0    20.9
4 09/12/2000 09:55    0.0    0.0    0.0    0.0    20.9
5 09/12/2000 10:05    0.0    0.0    0.0    0.0    20.9
6 09/12/2000 10:15    0.0    0.0    0.0    0.0    20.9
7 09/12/2000 10:25    0.0    0.0    0.0    0.0    20.9
8 09/12/2000 10:35    0.0    0.0    0.0    0.0    21.0
9 09/12/2000 10:45    0.0    0.0    0.0    0.0    21.0
10 09/12/2000 10:55    0.0    0.0    0.0    0.0    21.0
11 09/12/2000 11:05    0.0    0.0    0.0    0.0    21.0
12 09/12/2000 11:15    0.0    0.0    0.0    0.0    21.0
13 09/12/2000 11:25    0.0    0.0    0.0    0.0    21.0
14 09/12/2000 11:35    0.0    0.0    0.0    0.0    21.0
15 09/12/2000 11:45    0.0    0.0    0.0    0.0    21.0
16 09/12/2000 11:55    0.0    0.0    0.0    0.0    21.1
17 09/12/2000 12:05    0.0    0.0    0.0    0.0    21.1
18 09/12/2000 12:15    0.0    0.0    0.0    0.0    21.1
19 09/12/2000 12:25    0.0    0.0    0.0    0.0    21.1
20 09/12/2000 12:35    0.0    0.0    0.0    0.0    21.1
21 09/12/2000 12:45    0.0    0.0    0.0    0.0    21.1
22 09/12/2000 12:55    0.0    0.0    0.0    0.0    21.1
23 09/12/2000 13:05    0.0    0.0    0.0    0.0    21.1
24 09/12/2000 13:15    0.0    0.0    0.0    0.0    21.1
25 09/12/2000 13:25    0.0    0.0    0.0    0.0    21.1
26 09/12/2000 13:35    0.0    0.0    0.0    0.0    21.1
27 09/12/2000 13:45    0.0    0.0    0.0    0.0    21.1
28 09/12/2000 13:55    0.0    0.0    0.0    0.0    21.1
29 09/12/2000 14:05    0.0    0.0    0.0    0.0    21.1
30 09/12/2000 14:15    0.0    0.0    0.0    0.0    21.1
31 09/12/2000 14:25    0.0    0.0    0.0    0.0    21.1
32 09/12/2000 14:35    0.0    0.0    0.0    0.0    21.1
33 09/12/2000 14:45    0.0    0.0    0.0    0.0    21.1
34 09/12/2000 14:55    0.0    0.0    0.0    0.0    21.1
=====
```

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754

User ID: AHIBBARD Site ID: E672

Data Points: 45 Data Type: Avg Sample Period: 600 sec

Last Calibration Time: 09/13/2000 09:31

Start At: 09/13/2000 10:36 End At: 09/13/2000 17:56

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5
STEL Alarm Levels:	100.0	25.0	15.0	.....	.....
TWA Alarm Levels:	35.0	10.0	10.0	.....	.....

=====

=

Sensor:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
Peak Data Value:	0.3	0.0	0.0	1.0	21.3
Min Data Value:	0.0	0.0	0.0	0.0	20.8
TWA Data Value:	0.0	0.0	0.0	.....	.....
AVG Data Value:	0.0	0.0	0.0	.....	.....

=====

=

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 43 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 09/16/2000 07:05

=====

Gas Type: CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels: 35.0 50.0 10.0 10.0 19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	09/16/2000 07:56	0.8	0.0	0.0	0.0	20.9
2	09/16/2000 08:06	1.9	0.0	0.0	0.0	20.9
3	09/16/2000 08:16	3.2	0.0	0.0	0.0	20.9
4	09/16/2000 08:26	4.4	0.0	0.0	0.0	21.0
5	09/16/2000 08:36	5.4	0.0	0.0	0.0	21.0
6	09/16/2000 08:46	6.3	0.0	0.0	0.0	21.0
7	09/16/2000 08:56	7.1	0.0	0.0	0.0	21.1
8	09/16/2000 09:06	7.3	0.0	0.0	0.3	21.1
9	09/16/2000 09:16	8.0	0.0	0.0	0.5	21.1
10	09/16/2000 09:26	8.8	0.0	0.0	0.6	21.1
11	09/16/2000 09:36	9.6	0.0	0.0	0.9	21.1
12	09/16/2000 09:46	10.6	0.4	0.0	1.2	21.1
13	09/16/2000 09:56	11.3	0.0	0.0	1.3	21.2
14	09/16/2000 10:06	11.7	0.1	0.0	1.4	21.2
15	09/16/2000 10:16	11.7	0.0	0.0	1.4	21.2
16	09/16/2000 10:26	11.5	0.9	0.0	1.4	21.2
17	09/16/2000 10:36	10.6	0.1	0.0	0.8	21.3
18	09/16/2000 10:46	9.2	0.0	0.0	0.5	21.3
19	09/16/2000 10:56	8.4	0.0	0.0	0.4	21.2
20	09/16/2000 11:06	7.9	0.0	0.0	0.4	21.2
21	09/16/2000 11:16	7.5	0.0	0.0	0.4	21.1
22	09/16/2000 11:26	7.3	0.0	0.0	0.5	21.1
23	09/16/2000 11:36	7.5	0.0	0.0	0.7	21.1
24	09/16/2000 11:46	7.6	0.0	0.0	1.0	21.1
25	09/16/2000 11:56	8.0	0.0	0.0	1.1	21.1
26	09/16/2000 12:06	8.3	0.0	0.0	1.3	21.2
27	09/16/2000 12:16	8.3	0.0	0.0	1.3	21.2
28	09/16/2000 12:26	8.4	0.0	0.0	1.4	21.2
29	09/16/2000 12:36	8.8	0.0	0.0	1.6	21.2
30	09/16/2000 12:46	9.1	0.0	0.0	1.9	21.2
31	09/16/2000 12:56	9.4	0.0	0.0	2.0	21.2
32	09/16/2000 13:06	9.6	0.0	0.0	2.0	21.3
33	09/16/2000 13:16	9.4	0.0	0.0	1.9	21.3
34	09/16/2000 13:26	9.1	0.0	0.0	1.8	21.3
35	09/16/2000 13:36	9.3	0.0	0.0	2.0	21.3
36	09/16/2000 13:46	9.3	0.0	0.0	1.9	21.3
37	09/16/2000 13:56	9.2	0.0	0.0	1.8	21.3
38	09/16/2000 14:06	8.7	0.0	0.0	1.6	21.3
39	09/16/2000 14:16	8.8	0.0	0.0	1.9	21.3
40	09/16/2000 14:26	8.9	0.0	0.0	1.7	21.3
41	09/16/2000 14:36	8.4	0.0	0.0	1.2	21.3
42	09/16/2000 14:46	7.7	0.0	0.0	0.9	21.3
43	09/16/2000 14:56	7.0	0.0	0.0	0.8	21.3

DAILY FIELD MONITORING RESULTS

DATE: 8/31/00 Realtime dust monitoring work zone			
Time	Instrument	Location	Reading
0952	Sibata	DW of truck loading	0.046 mg/m ³
	Multi Rae		VOC
			LEL
			H ₂ S
			O
1400	Sibata	" "	0.045 mg/m ³
	Multi Rae		VOC
			LEL
			H ₂ S
			O
1531	Sibata	" "	0.011 mg/m ³
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O

DAILY FIELD MONITORING RESULTS

DATE: 9/6/00 Realtime Dust monitoring

Time	Instrument	Location	Reading
0809	Sibata	Work zone Drum Area A	0.006mg/m ³
	Multi Rae	DW of Excavation	VOC
			LEL
			H ₂ S
			O
0951	Sibata	" "	0.001mg/m ³
	Multi Rae		VOC
			LEL
			H ₂ S
			O
1310	Sibata	" "	0.018mg/m ³
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O

DAILY FIELD MONITORING RESULTS

DATE: 9/14/00

Realtime Dust monitoring

Time	Instrument	Location	Workzone Drum Area A	Reading
0854	Sibata	Dw of excavation		0.020mg/m ³
	Multi Rae		VOC	
			LEL	
			H ₂ S	
			O	
1332	Sibata	Dw of excavation		0.032mg/m ³
	Multi Rae		VOC	
			LEL	
			H ₂ S	
			O	
1505	Sibata	Dw of excavation		0.029mg/m ³
	Multi Rae		VOC	
			LEL	
			H ₂ S	
			O	
	Sibata			
	Multi Rae		VOC	
			LEL	
			H ₂ S	
			O	
	Sibata			
	Multi Rae		VOC	
			LEL	
			H ₂ S	
			O	
	Sibata			
	Multi Rae		VOC	
			LEL	
			H ₂ S	
			O	

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD Site ID: E672

Data Points: 29

Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 09/18/2000 07:21

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

1	09/18/2000 10:00	0.3	0.0	0.0	0.0	21.1	Bio Cell
2	09/18/2000 10:10	0.3	0.0	0.0	0.1	21.1	

1	09/18/2000 11:00	0.3	0.0	0.0	0.0	21.1	Drum Area A
2	09/18/2000 11:10	0.3	0.0	0.0	0.1	21.1	
3	09/18/2000 11:20	0.3	0.0	0.0	0.3	21.2	
4	09/18/2000 11:30	0.5	0.0	0.0	1.1	21.1	
5	09/18/2000 11:40	0.8	0.0	0.0	1.4	21.2	
6	09/18/2000 11:50	1.0	0.0	0.0	1.7	21.2	
7	09/18/2000 12:00	1.3	0.0	0.0	1.9	21.3	
8	09/18/2000 12:10	1.5	0.0	0.0	2.0	21.3	
9	09/18/2000 12:20	1.6	0.0	0.0	2.0	21.4	
10	09/18/2000 12:30	1.6	0.0	0.0	2.2	21.4	

1	09/18/2000 12:48	0.0	0.0	0.0	0.0	20.9	Drum Area A
2	09/18/2000 12:58	0.0	0.0	0.0	0.0	20.8	
3	09/18/2000 13:08	0.0	0.0	0.0	0.0	20.8	
4	09/18/2000 13:18	0.0	0.0	0.0	0.0	20.7	
5	09/18/2000 13:28	0.0	0.0	0.1	0.0	20.7	
6	09/18/2000 13:38	0.0	0.1	0.0	0.0	20.7	
7	09/18/2000 13:48	0.1	0.0	0.0	0.0	20.8	
8	09/18/2000 13:58	0.1	0.1	0.0	0.0	20.8	
9	09/18/2000 14:08	0.0	0.2	0.0	0.0	20.8	
10	09/18/2000 14:18	0.0	0.2	0.0	0.0	20.8	

1	09/18/2000 15:32	0.0	0.0	0.0	0.0	20.8	Drum Area A
2	09/18/2000 15:42	0.0	0.0	0.0	0.0	20.7	
3	09/18/2000 15:52	0.0	0.0	0.0	0.0	20.7	
4	09/18/2000 16:02	0.0	0.0	0.0	0.0	20.6	
5	09/18/2000 16:12	0.0	0.0	0.0	0.0	20.6	
6	09/18/2000 16:22	0.0	0.0	0.0	0.0	20.6	
7	09/18/2000 16:32	0.0	0.0	0.0	0.0	20.6	

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
 User ID: AHIBBARD Site ID: E672
 Data Points: 19 Data Type: Avg Sample Period: 600 sec
 Last Calibration Time: 09/19/2000 07:45

```
=====
Gas Type:      CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
High Alarm Levels:  200.0  100.0  20.0  —  23.5
Low Alarm Levels:   35.0   50.0  10.0  —  19.5
=====
```

```
=====
Line#  Date Time  CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
  1 09/19/2000 08:31    0.0    0.0    0.0  —  21.0
  2 09/19/2000 08:41    0.0    0.0    0.0  —  21.0
=====
```

Bio Cell

```
=====
  1 09/19/2000 09:31    0.0    0.0    0.0  —  20.9
  2 09/19/2000 09:41    0.0    0.0    0.0  —  21.0
  3 09/19/2000 09:51    0.0    0.0    0.0  —  21.0
  4 09/19/2000 10:01    0.0    0.0    0.0  —  21.0
  5 09/19/2000 10:11    0.0    0.0    0.0  —  21.0
=====
```

Debris Area

```
=====
  1 09/19/2000 11:14    0.0    0.0    0.0  —  20.8
  2 09/19/2000 11:24    0.0    0.0    0.0  —  20.8
  3 09/19/2000 11:34    0.0    0.0    0.0  —  20.9
  4 09/19/2000 11:44    0.0    0.0    0.0  —  20.9
  5 09/19/2000 11:54    0.0    0.0    0.0  —  20.9
  6 09/19/2000 12:04    0.0    0.0    0.1  —  20.9
=====
```

Debris Area

```
=====
  1 09/19/2000 13:18    0.0    0.0    0.0  —  20.8
  2 09/19/2000 13:28    0.0    0.0    0.0  —  20.8
  3 09/19/2000 13:38    0.0    0.0    0.0  —  20.9
  4 09/19/2000 13:48    0.0    0.0    0.0  —  20.9
  5 09/19/2000 13:58    0.0    0.0    0.0  —  20.9
  6 09/19/2000 14:08    0.0    0.0    0.0  —  20.9
  7 09/19/2000 14:18    0.0    0.0    0.0  —  21.0
  8 09/19/2000 14:28    0.0    0.0    0.0  —  21.0
=====
```

Debris Area

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD

Site ID: E672

Data Points: 21

Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 09/20/2000 07:26

```
=====
Gas Type:          CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
High Alarm Levels: 200.0  100.0   20.0   20.0   23.5
Low Alarm Levels:  35.0   50.0   10.0   10.0   19.5
=====
```

```
=====
Line#   Date Time   CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
=====
 1 09/20/2000 09:21    0.1    0.0    0.0    0.0   20.9
 2 09/20/2000 09:31    0.0    0.0    0.0    0.0   20.9
 3 09/20/2000 09:41    0.0    0.0    0.0    0.0   20.8
 4 09/20/2000 09:51    0.0    0.0    0.0    0.0   20.8
 5 09/20/2000 10:01    0.0    0.0    0.0    0.0   20.7
 6 09/20/2000 10:11    0.0    0.0    0.0    0.0   20.7
 7 09/20/2000 10:21    0.0    0.0    0.0    0.0   20.7
 8 09/20/2000 10:31    0.0    0.0    0.0    0.0   20.6
 9 09/20/2000 10:41    0.0    0.0    0.0    0.0   20.6
10 09/20/2000 10:51    0.0    0.0    0.0    0.0   20.6
11 09/20/2000 11:01    0.0    0.0    0.0    0.0   20.6
12 09/20/2000 11:11    0.0    0.0    0.0    0.0   20.6
13 09/20/2000 11:21    0.0    0.0    0.0    0.0   20.7
14 09/20/2000 11:31    0.0    0.0    0.1    0.0   20.6
15 09/20/2000 11:41    0.0    0.0    0.1    0.0   20.7
16 09/20/2000 11:51    0.2    0.0    0.2    0.0   20.7
17 09/20/2000 12:01    0.7    0.0    0.2    0.0   20.8
18 09/20/2000 12:11    1.4    0.0    0.2    0.0   20.8
19 09/20/2000 12:21    1.9    0.0    0.1    0.0   20.9
20 09/20/2000 12:31    2.3    0.0    0.1    0.0   20.9
21 09/20/2000 12:41    2.4    0.0    0.0    0.0   21.0
=====
```

Instrument: Multi-gas Monitor (PGM50-5P)
User ID: AHIBBARD Site ID: E672
Data Points: 15 Data Type: Avg
Last Calibration Time: 09/21/2000 08:17

Serial Number: 504754

Sample Period: 600 sec

```
=====
Gas Type:      CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 20.0 23.5
Low Alarm Levels:  35.0  50.0 10.0 10.0 19.5
=====
```

```
=====
Line#  Date Time  CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
=====
1 09/21/2000 09:05  1.2   0.0   0.0   0.0  20.9
2 09/21/2000 09:15  1.5   0.0   0.0   0.0  20.9
3 09/21/2000 09:25  2.1   0.0   0.0   0.1  20.9
4 09/21/2000 09:35  2.6   0.0   0.0   0.4  20.9
5 09/21/2000 09:45  3.2   0.0   0.0   0.7  20.9
6 09/21/2000 09:55  3.7   0.0   0.0   1.0  21.0
7 09/21/2000 10:05  3.7   0.0   0.0   0.5  21.1
8 09/21/2000 10:15  3.8   0.0   0.0   0.6  21.1
9 09/21/2000 10:25  4.0   0.0   0.0   1.0  21.1
10 09/21/2000 10:35  3.8   0.0   0.0   0.6  21.2
11 09/21/2000 10:45  3.2   0.0   0.0   0.1  21.2
12 09/21/2000 10:55  2.8   0.0   0.0   0.0  21.2
13 09/21/2000 11:05  2.4   0.0   0.0   0.0  21.2
14 09/21/2000 11:15  2.0   0.0   0.0   0.0  21.2
15 09/21/2000 11:25  1.7   0.0   0.0   0.0  21.1
=====
```

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD

Site ID: E672

Data Points: 45

Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 09/25/2000 08:24

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	—	23.5
Low Alarm Levels:	35.0	50.0	10.0	—	19.5

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
1	09/25/2000 09:57	0.0	0.0	0.0	—	21.1
2	09/25/2000 10:07	0.0	0.0	0.0	—	21.0
3	09/25/2000 10:17	0.0	0.0	0.0	—	21.0
4	09/25/2000 10:27	0.0	0.0	0.0	—	21.0
5	09/25/2000 10:37	0.0	0.0	0.0	—	21.0
6	09/25/2000 10:47	0.0	0.0	0.0	—	21.0
7	09/25/2000 10:57	0.0	0.0	0.0	—	21.0
8	09/25/2000 11:07	0.0	0.0	0.0	—	21.0
9	09/25/2000 11:17	0.0	0.0	0.0	—	21.0
10	09/25/2000 11:27	0.0	0.0	0.0	—	21.0
11	09/25/2000 11:37	0.0	0.0	0.0	—	21.0
12	09/25/2000 11:47	0.0	0.0	0.0	—	20.9
13	09/25/2000 11:57	0.0	0.0	0.0	—	21.0
14	09/25/2000 12:07	0.0	0.0	0.0	—	21.0
15	09/25/2000 12:17	0.0	0.0	0.0	—	21.0
16	09/25/2000 12:27	0.0	0.0	0.0	—	21.1
17	09/25/2000 12:37	0.0	0.0	0.0	—	21.1
18	09/25/2000 12:47	0.0	0.0	0.0	—	21.1
19	09/25/2000 12:57	0.0	0.0	0.0	—	21.1
20	09/25/2000 13:07	0.0	0.0	0.0	—	21.1
21	09/25/2000 13:17	0.0	0.0	0.0	—	21.1
22	09/25/2000 13:27	0.0	0.0	0.0	—	21.1
23	09/25/2000 13:37	0.0	0.0	0.0	—	21.1
24	09/25/2000 13:47	0.0	0.0	0.0	—	21.0
25	09/25/2000 13:57	0.0	0.0	0.0	—	21.0
26	09/25/2000 14:07	0.0	0.0	0.0	—	21.1
27	09/25/2000 14:17	0.0	0.0	0.0	—	21.1
28	09/25/2000 14:27	0.0	0.0	0.0	—	21.1
29	09/25/2000 14:37	0.0	0.0	0.0	—	21.1
30	09/25/2000 14:47	0.0	0.0	0.0	—	21.1
31	09/25/2000 14:57	0.0	0.0	0.0	—	21.2
32	09/25/2000 15:07	0.0	0.0	0.0	—	21.1
33	09/25/2000 15:17	0.0	0.0	0.0	—	21.1
34	09/25/2000 15:27	0.0	0.0	0.0	—	21.1
35	09/25/2000 15:37	0.0	0.0	0.0	—	21.1
36	09/25/2000 15:47	0.0	0.0	0.0	—	21.1
37	09/25/2000 15:57	0.0	0.0	0.0	—	21.1
38	09/25/2000 16:07	0.0	0.0	0.0	—	21.1
39	09/25/2000 16:17	0.0	0.0	0.0	—	21.1
40	09/25/2000 16:27	0.0	0.0	0.0	—	21.1

41	09/25/2000 16:37	0.0	0.0	0.0	----	21.1
42	09/25/2000 16:47	0.0	0.0	0.0	----	21.1
43	09/25/2000 16:57	0.0	0.0	0.0	----	21.0
44	09/25/2000 17:07	0.0	0.0	0.0	----	21.0
45	09/25/2000 17:17	0.0	0.0	0.0	----	21.0

DAILY FIELD MONITORING RESULTS

DATE: 9/25/00

Realtime Air Monitoring in Workzone

Time	Instrument	Location	Reading
1031	Sibata	DW of excavation	0.009mg/m ³
	Multi Rae	VOC	
		LEL	
		H ₂ S	
		O	
1449	Sibata	DW of excavation	0.011mg/m ³
	Multi Rae	VOC	
		LEL	
		H ₂ S	
		O	
	Sibata		
	Multi Rae	VOC	
		LEL	
		H ₂ S	
		O	
	Sibata		
	Multi Rae	VOC	
		LEL	
		H ₂ S	
		O	
	Sibata		
	Multi Rae	VOC	
		LEL	
		H ₂ S	
		O	
	Sibata		
	Multi Rae	VOC	
		LEL	
		H ₂ S	
		O	

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 504754

User ID: AHIBBARD

Site ID: E672

Data Points: 30

Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 09/27/2000 11:14

```
=====
Gas Type:          CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
High Alarm Levels: 200.0  100.0  20.0  —  23.5
Low Alarm Levels:  35.0   50.0  10.0  —  19.5
=====
```

```
=====
Line#   Date Time   CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
=====
 1 09/27/2000 11:19   0.0   0.0   0.0  —  20.8
 2 09/27/2000 11:29   0.0   0.0   0.0  —  20.9
 3 09/27/2000 11:39   0.0   0.0   0.0  —  20.9
 4 09/27/2000 11:49   0.0   0.0   0.0  —  20.9
 5 09/27/2000 11:59   0.0   0.0   0.0  —  21.0
 6 09/27/2000 12:09   0.0   0.0   0.0  —  21.0
 7 09/27/2000 12:19   0.0   0.0   0.0  —  21.0
 8 09/27/2000 12:29   0.0   0.0   0.0  —  21.0
 9 09/27/2000 12:39   0.0   0.0   0.0  —  21.1
10 09/27/2000 12:49   0.0   0.0   0.0  —  21.1
11 09/27/2000 12:59   0.0   0.0   0.0  —  21.1
12 09/27/2000 13:09   0.0   0.0   0.0  —  21.1
13 09/27/2000 13:19   0.0   0.0   0.0  —  21.1
14 09/27/2000 13:29   0.0   0.0   0.0  —  21.1
15 09/27/2000 13:39   0.0   0.0   0.0  —  21.1
16 09/27/2000 13:49   0.0   0.0   0.0  —  21.1
17 09/27/2000 13:59   0.0   0.0   0.0  —  21.1
18 09/27/2000 14:09   0.0   0.0   0.0  —  21.1
19 09/27/2000 14:19   0.0   0.0   0.0  —  21.1
20 09/27/2000 14:29   0.0   0.0   0.0  —  21.1
21 09/27/2000 14:39   0.0   0.0   0.0  —  21.1
22 09/27/2000 14:49   0.0   0.0   0.0  —  21.1
23 09/27/2000 14:59   0.0   0.0   0.0  —  21.1
24 09/27/2000 15:09   0.0   0.0   0.0  —  21.1
25 09/27/2000 15:19   0.0   0.0   0.0  —  21.1
26 09/27/2000 15:29   0.0   0.0   0.0  —  21.1
27 09/27/2000 15:39   0.0   0.0   0.0  —  21.1
28 09/27/2000 15:49   0.0   0.0   0.0  —  21.1
29 09/27/2000 15:59   0.0   0.0   0.0  —  21.1
30 09/27/2000 16:09   0.0   0.0   0.0  —  21.1
=====
```

Instrument: Multi-gas Monitor (PGM50-5P)

Serial Number: 50475

User ID: AHIBBARD

Site ID: E672

Data Points: 50

Data Type: Avg

Sample Period: 600 sec

Last Calibration Time: 09/28/2000 08:07

```
=====
Gas Type:          CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
High Alarm Levels: 200.0  100.0   20.0   ..... 23.5
Low Alarm Levels:  35.0   50.0   10.0   ..... 19.5
=====
```

```
=====
Line#   Date Time   CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
=====
```

```
=====
 1 09/28/2000 08:10    0.0    0.0    0.0   ..... 20.8
 2 09/28/2000 08:20    0.0    0.0    0.0   ..... 20.9
 3 09/28/2000 08:30    0.0    0.0    0.0   ..... 20.9
 4 09/28/2000 08:40    0.0    0.0    0.0   ..... 20.9
 5 09/28/2000 08:50    0.0    0.0    0.0   ..... 20.9
 6 09/28/2000 09:00    0.0    0.0    0.0   ..... 20.9
 7 09/28/2000 09:10    0.0    0.0    0.0   ..... 20.9
 8 09/28/2000 09:20    0.0    0.0    0.0   ..... 20.9
 9 09/28/2000 09:30    0.0    0.0    0.0   ..... 20.9
10 09/28/2000 09:40    0.0    0.0    0.0   ..... 20.9
11 09/28/2000 09:50    0.0    0.0    0.0   ..... 20.9
12 09/28/2000 10:00    0.0    0.0    0.0   ..... 20.9
13 09/28/2000 10:10    0.0    0.0    0.0   ..... 20.9
14 09/28/2000 10:20    0.0    0.0    0.0   ..... 20.9
15 09/28/2000 10:30    0.0    0.0    0.0   ..... 20.9
16 09/28/2000 10:40    0.0    0.0    0.0   ..... 20.9
17 09/28/2000 10:50    0.0    0.0    0.0   ..... 21.1
18 09/28/2000 11:00    0.0    0.0    0.0   ..... 21.1
19 09/28/2000 11:10    0.0    0.0    0.0   ..... 21.1
20 09/28/2000 11:20    0.0    0.0    0.0   ..... 21.1
21 09/28/2000 11:30    0.0    0.0    0.0   ..... 21.1
22 09/28/2000 11:40    0.0    0.0    0.0   ..... 21.1
23 09/28/2000 11:50    0.0    0.0    0.0   ..... 21.1
24 09/28/2000 12:00    0.0    0.0    0.0   ..... 21.2
25 09/28/2000 12:10    0.0    0.0    0.0   ..... 21.1
26 09/28/2000 12:20    0.0    0.0    0.0   ..... 21.1
27 09/28/2000 12:30    0.0    0.0    0.0   ..... 21.1
28 09/28/2000 12:40    0.0    0.0    0.0   ..... 21.1
29 09/28/2000 12:50    0.0    0.0    0.0   ..... 21.1
30 09/28/2000 13:00    0.0    0.0    0.0   ..... 21.1
31 09/28/2000 13:10    0.0    0.0    0.0   ..... 21.1
32 09/28/2000 13:20    0.0    0.0    0.0   ..... 21.1
33 09/28/2000 13:30    0.0    0.0    0.0   ..... 21.1
34 09/28/2000 13:40    0.0    0.0    0.0   ..... 21.1
35 09/28/2000 13:50    0.0    0.0    0.0   ..... 21.1
36 09/28/2000 14:00    0.0    0.0    0.0   ..... 21.1
37 09/28/2000 14:10    0.0    0.0    0.0   ..... 21.1
38 09/28/2000 14:20    0.0    0.0    0.0   ..... 21.1
39 09/28/2000 14:30    0.0    0.0    0.0   ..... 21.2
40 09/28/2000 14:40    0.0    0.0    0.0   ..... 21.3
41 09/28/2000 14:50    0.0    0.0    0.0   ..... 21.3
42 09/28/2000 15:00    0.0    0.0    0.0   ..... 21.3
43 09/28/2000 15:10    0.0    0.0    0.0   ..... 21.3
44 09/28/2000 15:20    0.0    0.0    0.0   ..... 21.3
45 09/28/2000 15:30    0.0    0.0    0.0   ..... 21.3
46 09/28/2000 15:40    0.0    0.0    0.0   ..... 21.3
47 09/28/2000 15:50    0.0    0.0    0.0   ..... 21.2
=====
```

48	09/28/2000 16:00	0.0	0.0	0.0	-----	21.2
49	09/28/2000 16:10	0.0	0.0	0.0	-----	21.2
50	09/28/2000 16:20	0.0	0.0	0.0	-----	21.2

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 50475

User ID: AHIBBARD Site ID: E672

Data Points: 50 Data Type: Avg Sample Period: 600 sec

Last Calibration Time: 09/28/2000 08:07

Start At: 09/28/2000 08:10 End At: 09/28/2000 16:20

```
=====
Sensor:      CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
High Alarm Levels: 200.0 100.0 20.0 ..... 23.5
Low Alarm Levels:  35.0  50.0 10.0 ..... 19.5
STEL Alarm Levels: 100.0  25.0 15.0 .....  ....
TWA Alarm Levels:  35.0  10.0 10.0 .....  ....
=====
```

```
=====
Sensor:      CO(ppm) VOC(ppm) H2S(ppm) LEL(%) OXY(%)
Peak Data Value:  0.0   0.0   0.0 ..... 21.3
Min Data Value:   0.0   0.0   0.0 ..... 20.8
TWA Data Value:   0.0   0.0   0.0 .....  ....
AVG Data Value:   0.0   0.0   0.0 .....  ....
=====
```

DAILY FIELD MONITORING RESULTS

DATE: 10/3/00 Realtime Dust monitoring in workzone

Time	Instrument	Location Debris Area (DW)	Reading
1102	Sibata		0.010mg/L
	Multi Rae		VOC
			LEL
			H ₂ S
			O
1110	Sibata	DW of truck loading	0.021mg/L
	Multi Rae		VOC
			LEL
			H ₂ S
			O
1348	Sibata	DW of workzone in Debris Area	0.009mg/L
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O
	Sibata		
	Multi Rae		VOC
			LEL
			H ₂ S
			O

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 14 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 11/01/2000 09:18

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	11/01/2000 14:23	0.0	0.0	0.0	0.0	20.8
2	11/01/2000 14:33	0.0	0.0	0.0	0.0	20.8
3	11/01/2000 14:43	0.0	0.0	0.0	0.0	20.8
4	11/01/2000 14:53	0.0	0.0	0.0	0.0	20.7
5	11/01/2000 15:03	0.0	0.0	0.0	0.0	20.7
6	11/01/2000 15:13	0.0	2.9	0.0	0.0	20.8
7	11/01/2000 15:23	0.0	3.4	0.0	0.0	20.7
8	11/01/2000 15:33	0.0	11.1	0.0	0.0	20.7
9	11/01/2000 15:43	0.0	3.3	0.0	0.0	20.7
10	11/01/2000 15:53	0.0	2.4	0.0	0.0	20.6
11	11/01/2000 16:03	0.0	1.4	0.0	0.0	20.6
12	11/01/2000 16:13	0.0	1.6	0.0	0.0	20.6
13	11/01/2000 16:23	0.0	4.1	0.0	0.0	20.6
14	11/01/2000 16:33	0.0	5.4	0.0	0.0	20.6
15	11/01/2000 16:46	0.3	0.0	0.0	0.0	20.8
16	11/01/2000 16:56	0.3	0.0	0.0	0.0	20.8
17	11/01/2000 17:06	0.4	0.0	0.1	0.0	20.8
18	11/01/2000 17:16	0.4	0.0	0.1	0.0	20.8

Test pit excavation

41	10/09/2000 15:47	0.0	0.0	0.0	—	20.3
42	10/09/2000 15:57	0.0	0.0	0.0	—	20.4
43	10/09/2000 16:07	0.0	0.0	0.0	—	20.3
44	10/09/2000 16:17	0.0	0.0	0.0	—	20.4
45	10/09/2000 16:27	0.0	0.0	0.0	—	20.4
46	10/09/2000 16:37	0.0	0.0	0.0	—	20.3
47	10/09/2000 16:47	0.0	0.0	0.0	—	20.3
48	10/09/2000 16:57	0.0	0.0	0.0	—	20.3
49	10/09/2000 17:07	0.0	0.0	0.0	—	20.3
50	10/09/2000 17:17	0.0	0.0	0.0	—	20.3
51	10/09/2000 17:27	0.0	0.0	0.0	—	20.3
52	10/09/2000 17:37	0.0	0.0	0.0	—	20.3

Instrument: Multi-gas Monitor (PGM50-5P) Serial Number: 504754
User ID: AHIBBARD Site ID: E672
Data Points: 15 Data Type: Avg Sample Period: 600 sec
Last Calibration Time: 11/02/2000 07:15

```
=====
Gas Type:          CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
High Alarm Levels: 200.0  100.0  20.0   20.0   23.5
Low Alarm Levels:  35.0   50.0  10.0   10.0   19.5
=====
```

```
=====
Line#   Date Time   CO(ppm) VOC(ppm) H2S(ppm)  LEL(%)  OXY(%)
=====
```

```
1 11/02/2000 07:50    0.0    0.0    0.0    0.0   21.0
2 11/02/2000 08:00    0.0    1.8    0.0    0.0   20.9
3 11/02/2000 08:10    0.0    0.1    0.0    0.0   20.9
4 11/02/2000 08:20    0.0    0.0    0.0    0.0   20.8
5 11/02/2000 08:30    0.0    0.0    0.0    0.0   20.7
6 11/02/2000 08:40    0.0    0.0    0.0    0.0   20.7
7 11/02/2000 08:50    0.0    0.0    0.0    0.0   20.7
8 11/02/2000 09:00    0.0    0.0    0.0    0.0   20.7
9 11/02/2000 09:10    0.0    0.0    0.0    0.0   20.7
10 11/02/2000 09:20    0.0    0.0    0.0    0.0   20.7
11 11/02/2000 09:30    0.0    0.0    0.0    0.0   20.8
12 11/02/2000 09:40    0.0    0.0    0.0    0.0   20.7
13 11/02/2000 09:50    0.0    0.0    0.0    0.0   20.8
14 11/02/2000 10:00    0.0    0.0    0.0    0.0   20.8
15 11/02/2000 10:10    0.8    0.0    0.0    0.0   20.9
```

Test pit excavation

Instrument: Multi-gas Monitor (PGM50-5P)
User ID: AHIBBARD Site ID: E672
Data Points: 21 Data Type: Avg
Last Calibration Time: 11/05/2000 09:41

Serial Number: 504754

=====

Gas Type:	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
High Alarm Levels:	200.0	100.0	20.0	20.0	23.5
Low Alarm Levels:	35.0	50.0	10.0	10.0	19.5

=====

=====

Line#	Date Time	CO(ppm)	VOC(ppm)	H2S(ppm)	LEL(%)	OXY(%)
-------	-----------	---------	----------	----------	--------	--------

=====

1	11/06/2000 15:33	0.0	0.0	0.0	0.0	20.7
2	11/06/2000 15:43	0.0	0.0	0.0	0.0	20.5
3	11/06/2000 15:53	0.0	0.0	0.0	0.0	20.4
4	11/06/2000 16:03	0.2	0.0	0.0	0.0	20.4
5	11/06/2000 16:13	0.7	0.0	0.0	0.0	20.4
6	11/06/2000 16:23	1.2	0.0	0.0	0.0	20.4
7	11/06/2000 16:33	1.7	0.0	0.0	0.0	20.3
8	11/06/2000 16:43	2.2	0.0	0.0	0.0	20.4
9	11/06/2000 16:53	2.7	0.0	0.0	0.0	20.4
10	11/06/2000 17:03	2.7	0.0	0.0	0.0	20.4
11	11/06/2000 17:13	2.5	0.0	0.0	0.0	20.5
12	11/06/2000 17:23	2.4	0.0	0.0	0.0	20.4
13	11/06/2000 17:33	2.3	0.0	0.0	0.0	20.4
14	11/06/2000 17:43	2.1	0.0	0.0	0.0	20.4
15	11/06/2000 17:53	2.0	0.0	0.0	0.0	20.4
16	11/06/2000 18:03	1.9	0.0	0.0	0.0	20.4
17	11/06/2000 18:13	1.7	0.0	0.0	0.0	20.4
18	11/06/2000 18:23	1.6	0.0	0.0	0.0	20.4
19	11/06/2000 18:33	1.9	0.0	0.0	0.0	20.4
20	11/06/2000 18:43	1.5	0.0	0.0	0.0	20.4
21	11/06/2000 18:53	1.2	0.0	0.0	0.0	20.4

Bio-cell excavation

DAILY CALIBRATION DATA

DATE: 8/9/00

HYGIENIST:

Adam Hibbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #: PGM50

Serial #: 504754

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

☒ 100 ppm Isobutylene
☒ 10 ppm Hydrogen Sulfide
☒ 60 ppm Carbon Monoxide
☒ 1.45% Methane 2.5%
☒ 15% Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #: PCD-1

Serial #: 0691210

Background = 0.012 mg/m³

Sensitivity 50

DATE: 8/10/00

Adam Hibbard

Background : _____ ppm

O2 20.9%

02 _____ %

[✓] 100 ppm Isobutylene
[✓] 10 ppm Hydrogen Sulfide
[✓] 60 ppm Carbon Monoxide
[✓] 4.45% Methane 2.5
[✓] 18% Oxygen 20.9

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Back ground:

CO - ppm
$$\text{H}_2\text{S} = \text{ppt}$$

LEL = _____ %

SIBATA

Model #: PCD-1

Serial #: 0691210

Background = 0.019 mg/m³

Sex. 50

DAILY CALIBRATION DATA

DATE: 8/15/00

HYGIENIST: Adam Hibbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 1.45 % Methane 25%
- ☒ 18 % Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.015 mg/m³

DAILY CALIBRATION DATA

DATE: 8/16/00

HYGIENIST: Adam Hibbard

<p><u>HNU</u> Model # : _____ Serial # : _____ Lamp type : _____ eV Background : _____ ppm</p>	<p><u>RAE</u> Model # : <u>PGM50</u> Serial # : <u>504754</u> Lamp type : <u>10.6</u> eV BG: VOC <u>0.0</u> ppm H2S <u>0</u> ppm LEL <u>0</u> % CO <u>0</u> ppm O2 <u>20.9</u> %</p>	<p><u>RAE</u> Model # : _____ Serial # : _____ Lamp type : _____ eV BG: VOC _____ ppm H2S _____ ppm LEL _____ % CO _____ ppm O2 _____ %</p>
<p>SPAN GAS CONCENTRATION</p> <p>[9] 100 ppm Isobutylene [1] 10 ppm Hydrogen Sulfide [4] 60 ppm Carbon Monoxide [1] 1.5% Methane 2.5 [4] 15% Oxygen 20.9</p>	<p>SPAN ADJUSTMENT</p> <p style="text-align: center;">Automatic</p>	<p>COMMENTS</p>

OXYGEN METER/EXPLOSIMETER

Model #: _____ Serial #: _____	Background: O ₂ = _____ % CO = _____ ppm H ₂ S = _____ ppm LEL = _____ %
-----------------------------------	--

SIBATA

Model #: _____
 Serial #: _____

 Background = 0.003 mg/m³

DAILY CALIBRATION DATA

DATE: 5/17/00

HYGIENIST: Adam Hibbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 1.45% Methane 2.5%
- ☒ 15% Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.006 mg/m³

DAILY CALIBRATION DATA

DATE: 8/22/00

HYGIENIST:

Adam Hibbard

HNU

Model #: DL101

Serial #: 1

Lamp type: 10.6 eV

Background: 2.0 ppm

RAE

Model #:

Serial #: 504754

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 1.45 % Methane
- ☒ 15 % Oxygen

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.015 mg/m³

DAILY CALIBRATION DATA

DATE: 8/23/00

HYGIENIST:

Adam Hibbard

HNU

Model #:

Serial #:

Lamp type: 10.6 eV

Background: 1.3 ppm

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 14.5% Methane 2.5 %
- ☒ 15% Oxygen 20.9 %

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.016 mg/m³

DAILY CALIBRATION DATA

DATE: 8/24/00

HYGIENIST: Adam Hibbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

☒ 100 ppm Isobutylene
☒ 10 ppm Hydrogen Sulfide
☒ 60 ppm Carbon Monoxide
☒ 45% Methane 25%
☒ 15% Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.017 mg/m³

DAILY CALIBRATION DATA

DATE: 8 25 00

HYGIENIST: Adam Hibbard

<p><u>HNU</u> Model # : Serial # : Lamp type : <u>10.6</u> eV Background : <u>1.1</u> ppm</p>	<p><u>RAE</u> Model # : Serial # : Lamp type : <u>10.6</u> eV BG: VOC <u>0</u> ppm H2S <u>0</u> ppm LEL <u>0</u> % CO <u>0</u> ppm O2 <u>20.9</u> %</p>	<p><u>RAE</u> Model # : Serial # : Lamp type : _____ eV BG: VOC _____ ppm H2S _____ ppm LEL _____ % CO _____ ppm O2 _____ %</p>
<p>SPAN GAS CONCENTRATION</p> <p><input checked="" type="checkbox"/> 100 ppm Isobutylene <input checked="" type="checkbox"/> 10 ppm Hydrogen Sulfide <input checked="" type="checkbox"/> 60 ppm Carbon Monoxide <input checked="" type="checkbox"/> 1.45% Methane 2.5% <input checked="" type="checkbox"/> 15% Oxygen 20.9</p>	<p>SPAN ADJUSTMENT</p> <p style="text-align: center;">Automatic</p>	<p>COMMENTS</p>

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.015 mg/m³

DAILY CALIBRATION DATA

DATE: 8/26/00

HYGIENIST: Adam Hibbard

HNU

Model #:

Serial #:

Lamp type: 10.6 eV

Background: 1.4 ppm

RAE

Model #:

Serial #: 504754

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.8 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☐ 100 ppm Isobutylene
- ☐ 10 ppm Hydrogen Sulfide
- ☐ 60 ppm Carbon Monoxide
- ☐ 1.45 % Methane
- ☐ 15 % Oxygen

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #: 06191210

Background = 0.016 mg/m³

DAILY CALIBRATION DATA

DATE: 6/28/00

HYGIENIST:

Adam Hubbard

HNU

Model #: DL101

Serial #:

Lamp type: 10.6 eV

Background: 1.2 ppm

RAE

Model #: PGM50-5P

Serial #: 504754

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H2S 0 ppm

LEL 0 %

CO 0 ppm

O2 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H2S _____ ppm

LEL _____ %

CO _____ ppm

O2 _____ %

SPAN GAS CONCENTRATION

- [☒] 100 ppm Isobutylene
- [☒] 10 ppm Hydrogen Sulfide
- [☒] 60 ppm Carbon Monoxide
- [☒] 1.45% Methane 2.5%
- [☒] 15% Oxygen 20.9

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #: PCD-1

Serial #: 0691210

Background = 0.015 mg/m³

Sensitivity 60

DAILY CALIBRATION DATA

DATE: 8.29.00

HYGIENIST: Adam Hibbard

HNU

Model #: D2101
Serial #: 562065

Lamp type: 10.6 eV

Background: 1.3 ppm

RAE

Model #: PGM 50
Serial #: 504754

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H2S 0 ppm

LEL 0 %

CO 0 ppm

O2 20.9 %

RAE

Model #:
Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H2S _____ ppm

LEL _____ %

CO _____ ppm

O2 _____ %

SPAN GAS CONCENTRATION

☒ 100 ppm Isobutylene
☒ 10 ppm Hydrogen Sulfide
☒ 60 ppm Carbon Monoxide
☒ 1.45 % Methane 2.5 %
☒ 15 % Oxygen 20.9 %

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:
Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #: PCD-1
Serial #: 0691210

Background = 0.001 mg/m³

Sensitivity 59

DAILY CALIBRATION DATA

DATE: 8/30/00

HYGIENIST:

Adam Hibbard

HNU

Model #: DL101

Serial #: 567065

Lamp type: 10.6 eV

Background: 1.2 ppm

RAE

Model #: PG450

Serial #: 604754

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0.1 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 14.5% Methane 2.5
- ☒ 15% Oxygen 20.9

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #: PCD-1

Serial #: 0691210

Background = 2002 mg/m³

DAILY CALIBRATION DATA

DATE: 8-13-11 00

HYGIENIST:

Adlai Hubbard

HNU

Model #: DL101

Serial #: 567065

Lamp type : 10.6 eV

Background: 1.3 ppm

RAE

Model #: AG M50

Serial #: 504754

Lamp type : 10.6 eV

BG: VOC 0.0 ppm

H2S 0 ppm

LEL 0 %

CO 0 ppm

O2 20.9 %

RAE

Model # :

Serial # :

Lamp type : _____ eV

BG: VOC _____ ppm

H2S _____ ppm

LEL _____ %

CO _____ ppm

02 _____ %

SPAN GAS CONCENTRATION

[✓] 100 ppm Isobutylene
 [✓] 10 ppm Hydrogen Sulfide
 [✓] 60 ppm Carbon Monoxide
 [✓] 1.45 % Methane 2.5%
 [✓] 15 % Oxygen 20.9%

SPAN ADJUSTMENT

Autocratic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #.

Background:

$$O^2 = \frac{1}{2}$$
CO 200 ppm

H.S. # ppm

LEL = %

SIBATA

Model #: PCD-1

Serial #: 0691210

Background = 0.00 1 mg/m³

DAILY CALIBRATION DATA

DATE: 9/6/00

HYGIENIST:

Adam Hibbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- [] 100 ppm Isobutylene
- [] 10 ppm Hydrogen Sulfide
- [] 60 ppm Carbon Monoxide
- [] 1.45% Methane 2.5%
- [] 15% Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.004 mg/m³

DAILY CALIBRATION DATA

DATE: 9/15/00

HYGIENIST: Adam Hibbard

HNU

Model # :

Serial # :

Lamp type : _____ eV

Background : _____ ppm

RAE

Model # :

Serial # :

Lamp type : 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model # :

Serial # :

Lamp type : _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

M 100 ppm Isobutylene
Y 10 ppm Hydrogen Sulfide
L 60 ppm Carbon Monoxide
M 1.45 % Methane 7.5%
L 15 % Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSI-METER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.005 mg/m³

DAILY CALIBRATION DATA

DATE: 9/8/06

HYGIENIST: Adam Hubbard

<p><u>HNU</u> Model # : _____ Serial # : _____ Lamp type : _____ eV Background : _____ ppm</p>	<p><u>RAE</u> Model # : <u>PGM-50</u> Serial # : <u>504754</u> Lamp type : <u>10.6</u> eV BG: VOC <u>0.0</u> ppm H₂S <u>0</u> ppm LEL <u>0</u> % CO <u>0</u> ppm O₂ <u>20.9</u> %</p>	<p><u>RAE</u> Model # : _____ Serial # : _____ Lamp type : _____ eV BG: VOC _____ ppm H₂S _____ ppm LEL _____ % CO _____ ppm O₂ _____ %</p>
<p>SPAN GAS CONCENTRATION</p> <p><input checked="" type="checkbox"/> 100 ppm Isobutylene <input checked="" type="checkbox"/> 10 ppm Hydrogen Sulfide <input checked="" type="checkbox"/> 60 ppm Carbon Monoxide <input checked="" type="checkbox"/> 1.45 % Methane 2.5 % <input checked="" type="checkbox"/> 15 % Oxygen 20.9 %</p>	<p>SPAN ADJUSTMENT</p> <p style="text-align: center;">Automatic</p>	<p>COMMENTS</p>

OXYGEN METER/EXPLOSIMETER

Model #: _____ Serial #: _____	Background: O ₂ = _____ % CO = _____ ppm H ₂ S = _____ ppm LEL = _____ %
-----------------------------------	--

SIBATA

Model #: PCD-1
 Serial #: 0691210

 Background = 0.003 mg/m³

DAILY CALIBRATION DATA

DATE: 9/9/00

HYGIENIST:

Adam Hubbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #: PGM 50

Serial #: 504754

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- [✓] 100 ppm Isobutylene
- [✓] 10 ppm Hydrogen Sulfide
- [✓] 60 ppm Carbon Monoxide
- [✓] 1.45% Methane 2.5%
- [✓] 15% Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.001 mg/m³

Sensitivity 59

DAILY CALIBRATION DATA

DATE: 9/1/00

HYGIENIST: Adam Hibbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #: PGM-50

Serial #: 504754

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- [✓] 100 ppm Isobutylene
- [✓] 10 ppm Hydrogen Sulfide
- [✓] 60 ppm Carbon Monoxide
- [✓] 1.45% Methane 2.5%
- [✓] 15% Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #: PCD-1

Serial #: 0691210

Background = 0.002 mg/m³

DAILY CALIBRATION DATA

DATE: 9/12/00

HYGIENIST: Adam Hibbard

HNU

Model # :

Serial # :

Lamp type : _____ eV

Background : _____ ppm

RAE

Model # :

Serial # :

Lamp type : 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model # :

Serial # :

Lamp type : _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

☒ 100 ppm Isobutylene
☒ 10 ppm Hydrogen Sulfide
☒ 60 ppm Carbon Monoxide
☒ 1.45% Methane 2.5%
☒ 18% Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.003 mg/m³

DAILY CALIBRATION DATA

DATE: 9/14/00

HYGIENIST:

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 6 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

☒ 100 ppm Isobutylene
☒ 10 ppm Hydrogen Sulfide
☒ 60 ppm Carbon Monoxide
☒ 1.45 % Methane
☒ 15 % Oxygen

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.003 mg/m³

DAILY CALIBRATION DATA

DATE: 9/16/00

HYGIENIST: Andrew Wright

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #: P6m-50

Serial #: 504754

Lamp type: 0 eV

BG: VOC 0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 1.45 % Methane 2.5%
- ☒ 18% Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #: P10-1

Serial #: 0671210

Background = 0.003 mg/m³

DAILY CALIBRATION DATA

DATE: 9/18/02

HYGIENIST: Adam Hibbard

HNU
Model # : _____
Serial # : _____
Lamp type : _____ eV
Background : _____ ppm

Serial # :

Background : _____ ppto

RAE
Model # :
Serial # :
Lamp type : 10.6 eV
BG: VOC 0.0 ppm
H2S 0 ppm
LEL 0 %
CO 0 ppm
O2 20.9 %

Serial # :

BG: VOC 0.0 DOM

LEL 0 %

CO 0 0000

02 2019 %

RAE
Model # :
Serial # :
Lamp type : _____ eV
BG: VOC _____ ppm
H2S _____ ppm
LEL _____ %
CO _____ ppm
O2 _____ %

Serial # :

Lamp type : eV

BG: VOC ppm

H2S ppm

LEL	%
-----	---

CO _____ ppm

02 _____ %

SPAN GAS CONCENTRATION

[4]	100 ppm Isobutylene
[3]	10 ppm Hydrogen Sulfide
[3]	60 ppm Carbon Monoxide
[3]	1.45% Methane 2.5%
[4]	15% Oxygen 20.9

[4] 100 ppm Isobutylene
[4] 10 ppm Hydrogen Sulfide
[4] 60 ppm Carbon Monoxide
[4] 1.45% Methane 2.5%
[4] 18% Oxygen 20.9

SPAN ADJUSTMENT

Automatic

Axiomatic

COMMENTS

OXYGEN METER/EXPLOSIMETER	
Model #:	Background:
Serial #:	O ₂ = _____ %
	CO = _____ ppm
	H ₂ S = _____ ppm
	LEL = _____ %

Serial #:

Serial #:

O_2 mm	%
0.0	0.0
0.1	0.1
0.2	0.2
0.3	0.3
0.4	0.4
0.5	0.5
0.6	0.6
0.7	0.7
0.8	0.8
0.9	0.9
1.0	1.0
1.1	1.1
1.2	1.2
1.3	1.3
1.4	1.4
1.5	1.5
1.6	1.6
1.7	1.7
1.8	1.8
1.9	1.9
2.0	2.0
2.1	2.1
2.2	2.2
2.3	2.3
2.4	2.4
2.5	2.5
2.6	2.6
2.7	2.7
2.8	2.8
2.9	2.9
3.0	3.0
3.1	3.1
3.2	3.2
3.3	3.3
3.4	3.4
3.5	3.5
3.6	3.6
3.7	3.7
3.8	3.8
3.9	3.9
4.0	4.0
4.1	4.1
4.2	4.2
4.3	4.3
4.4	4.4
4.5	4.5
4.6	4.6
4.7	4.7
4.8	4.8
4.9	4.9
5.0	5.0
5.1	5.1
5.2	5.2
5.3	5.3
5.4	5.4
5.5	5.5
5.6	5.6
5.7	5.7
5.8	5.8
5.9	5.9
6.0	6.0
6.1	6.1
6.2	6.2
6.3	6.3
6.4	6.4
6.5	6.5
6.6	6.6
6.7	6.7
6.8	6.8
6.9	6.9
7.0	7.0
7.1	7.1
7.2	7.2
7.3	7.3
7.4	7.4
7.5	7.5
7.6	7.6
7.7	7.7
7.8	7.8
7.9	7.9
8.0	8.0
8.1	8.1
8.2	8.2
8.3	8.3
8.4	8.4
8.5	8.5
8.6	8.6
8.7	8.7
8.8	8.8
8.9	8.9
9.0	9.0
9.1	9.1
9.2	9.2
9.3	9.3
9.4	9.4
9.5	9.5
9.6	9.6
9.7	9.7
9.8	9.8
9.9	9.9
10.0	10.0

CO = _____ ppm

H.S. = ppm

LEL = _____ %

SIBATA
Model #:
Serial #:
Background = 0.004 mg/m³

Serial #:

Serial #:

Background = 0.004 mg/m³

DAILY CALIBRATION DATA

DATE: 9/19/00

HYGIENIST:

Adam Hibbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm,

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL - %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☐ 4.5 % Methane
- ☒ 15% Oxygen 20.9

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSI-METER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.004 mg/m³

DAILY CALIBRATION DATA

DATE: 9/25/00

HYGIENIST: Adam Hibbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #:

Serial #:

Lamp type: 10-6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.8 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 4.5% Methane
- ☒ 15% Oxygen

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSI-METER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.003 mg/m³

DAILY CALIBRATION DATA

DATE: 10/11/00

HYGIENIST: Adam Hubbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL - %

CO 0 ppm

O₂ 20.8 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 4.5% Methane
- ☒ 15% Oxygen

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background 0.005 mg/m³

Sensitivity 5A

DAILY CALIBRATION DATA

DATE: 9/27/00

HYGIENIST:

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 50 ppm Carbon Monoxide
- ☒ ~~4.5~~ % Methane
- ☒ ~~15~~ % Oxygen

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.002 mg/m³

DAILY CALIBRATION DATA

DATE: 9/28/05

HYGIENIST: Adam Hubbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H2S 0 ppm

LEL 0 %

CO 0 ppm

O2 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H2S _____ ppm

LEL _____ %

CO _____ ppm

O2 _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 4.5% Methane 2.5 %
- ☒ 15% Oxygen 20.9 %

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = _____ mg/m³

DAILY CALIBRATION DATA

DATE: 12/12/00

HYGIENIST: Adam Hubbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #: PGM50-51

Serial #: 504754

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.9 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

☒ 100 ppm Isobutylene
☒ 10 ppm Hydrogen Sulfide
☒ 60 ppm Carbon Monoxide
☒ 4.5% Methane 2.5 %
☒ 15% Oxygen 20.9 %

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #: PCD-1

Serial #: 0691210

Background = 0.003 mg/m³

DAILY CALIBRATION DATA

DATE: 10/23/00

HYGIENIST: Adam Hubbard

HNU

Model #:

Serial #:

Lamp type: _____ eV

Background: _____ ppm

RAE

Model #:

Serial #:

Lamp type: 10.6 eV

BG: VOC 0.0 ppm

H₂S 0 ppm

LEL 0 %

CO 0 ppm

O₂ 20.7 %

RAE

Model #:

Serial #:

Lamp type: _____ eV

BG: VOC _____ ppm

H₂S _____ ppm

LEL _____ %

CO _____ ppm

O₂ _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 4.45% Methane
- ☒ 15% Oxygen

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSIMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.005 mg/m³

Sensitivity 59

DAILY CALIBRATION DATA

DATE: 11 / 2 / 00

HYGIENIST:

Adam H. Hubbard

HNU

Model # :

Serial # :

Lamp type : _____ eV

Background : _____ ppm

RAE

Model # :

Serial # :

Lamp type : 10.6 eV

BG: VOC 0.0 ppm

H2S 0 ppm

LEL 0 %

CO 0 ppm

O2 20.8 %

RAE

Model # :

Serial # :

Lamp type : _____ eV

BG: VOC _____ ppm

H2S _____ ppm

LEL _____ %

CO _____ ppm

O2 _____ %

SPAN GAS CONCENTRATION

- ☒ 100 ppm Isobutylene
- ☒ 10 ppm Hydrogen Sulfide
- ☒ 60 ppm Carbon Monoxide
- ☒ 4.45% Methane 2.5%
- ☒ 15% Oxygen 20.9%

SPAN ADJUSTMENT

Automatic

COMMENTS

OXYGEN METER/EXPLOSMETER

Model #:

Serial #:

Background:

O₂ = _____ %

CO = _____ ppm

H₂S = _____ ppm

LEL = _____ %

SIBATA

Model #:

Serial #:

Background = 0.005 mg/m³

AIRBORNE DUST DATA

PHILIP**ANALYTICAL SERVICES****Chain of Custody Record**4418 Pottsville Pike Reading, PA 19605
phone: (610) 921-8833 fax: (610) 921-9667**Sample Container Information**Bottle Type (G P H) ☐
of Containers ☐
Preserved? (Y/N) ☐Report
Results
To:PO # Job ID
Name Adam Hibbard
Company Severson / Olin Corp
Mailing Address 51 Eames Street
City Wilmington State MA ZIP 01887
Telephone # Fax #Send
Invoice
To:Name Telephone # (716) 284-0431
Company Severson Dept.
Mailing Address 2749 Lockport Road
City Niagara Falls State NY ZIP 14302
Credit Card # Exp. DateAnalysis
Requested
195940N105H Method 7200 (Chromium)
N105H Method 8200 (Fugitive Dust)

Page 1 of 1

PAS Quote#

Sampled by:

SAMPLE DESCRIPTIONAir Vol. (L
or min)Matrix
TypeDate
SampledTime
Sampled

Comments/Hazards/ Location Details

1	538702 PS 8/9	1055.9	Dust	8/9/00	585 m	X	X											Perimeter South Area B
2	538580 WZ 8/9	1053			585 m	X	X											Work zone Area B
3	502409 DW 8/9	1035.4			585 m	X	X											Downwind Area B
4	583299 PN 8/9	1070.6		8/9/00	585 m	X	X											Perimeter North Area B
5	538580 WZ 8/10	673.8		8/10/00	510 m	X	X											Work zone Area B
6	583274 PN 8/10	935.9				X	X											Perimeter North Area B
7	502617 HW 8/10	923.1				X	X											Upwind Area B
8	538702 PS 8/10	976.7				X	X											Perimeter South Area B
9	502709 DW 8/10	920.6	Dust	8/10/00	510 m	X	X											Downwind Area B
10																		

Special Instructions (Including Data Deliverables and Turn Around Time):

Samples relinquished to
shipper or courier by:

Date 8/11/00 Time

Samples received by:

Date Time

Samples Relinquished by:

Samples Relinquished to:

Date Time

Samples Relinquished by:

Samples Relinquished to
Laboratory

Date 8/11/00 Time 9:30

Method of Shipment/Delivery:

UPS

FED-EX

PAS Courier

Client drop off

Other

Samples Rec'd. on Ice? (Y N n/a)

Temp. Blank

Sample Temp.

Samples rec'd Intact? (Y N)

Custody seals Intact? (Y N n/a)

ID on samples match COC? (Y N)

VOC Samples have zero headspace? (Y N n/a)

Samples properly preserved? (Y N n/a)

Notes:



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA NVLAP 101203-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10003
• PA DER 06.303

• NJ DER 74678

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
2749 Lockport Road
P.O. Box 396
Niagara Falls NY 14302

Project: 195940
Received: 15-AUG-00
Reported: 21-AUG-00

Project Description: Dust and Total Chromium Analysis

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
<u>538902PS8/9</u> Air Volume: 1055.9 L Lab Sample: 1415402 sampled: 09-AUG-00					
Particulate, Total	< 0.10	mg/sample	< 0.095	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.00066	mg/m3	7300M

<u>538580WZ8/9</u> Air Volume: 1053 L Lab Sample: 1415403 sampled: 09-AUG-00					
Particulate, Total	< 0.10	mg/sample	< 0.095	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.00067	mg/m3	7300M

<u>522909DW8/9</u> Air Volume: 1038.4 L Lab Sample: 1415404 sampled: 09-AUG-00					
Particulate, Total	< 0.10	mg/sample	< 0.096	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.00067	mg/m3	7300M

<u>583299PN8/9</u> Air Volume: 1070.6 L Lab Sample: 1415405 sampled: 09-AUG-00					
Particulate, Total	0.21	mg/sample	0.196	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.00065	mg/m3	7300M



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77:7E

Client: Severson Environmental Services, Inc.
Project: 196091

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
--	---------------	--------------	----------------------	--------------	---------------

502617UW8-15A
Air Volume: 1048.8 L
Lab Sample: 1416258
sampled: 15-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.095	mg/m3	C500
Chromium, Total	0.0006	mg/sample	0.00057	mg/m3	7300M

522909DW8-15A
Air Volume: 1034.5 L
Lab Sample: 1416259
sampled: 15-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.097	mg/m3	C500
Chromium, Total	0.0007	mg/sample	0.00068	mg/m3	7300M

502617WZ8-17A
Air Volume: 630 L
Lab Sample: 1416260
sampled: 17-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.16	mg/m3	C500
Chromium, Total	0.0006	mg/sample	0.0010	mg/m3	7300M

583299DW8-17A
Air Volume: 560 L
Lab Sample: 1416261
sampled: 17-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.18	mg/m3	C500
Chromium, Total	0.0007	mg/sample	0.0013	mg/m3	7300M

522909UW8-17A
Air Volume: 630 L
Lab Sample: 1416262
sampled: 17-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.16	mg/m3	C500
Chromium, Total	0.0007	mg/sample	0.0011	mg/m3	7300M



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77-571

Client: Severson Environmental Services, Inc.
Project: 196091

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
<u>538902EP8-17A</u>					
Air Volume: 672 L					
Lab Sample: 1416263					
sampled: 17-AUG-00					
Particulate, Total	< 0.10	mg/sample	< 0.15	mg/m3	C500
Chromium, Total	0.0006	mg/sample	0.0009	mg/m3	7300M

538580WP8-17A
Air Volume: 665 L
Lab Sample: 1416264
sampled: 17-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.15	mg/m3	C500
Chromium, Total	0.0007	mg/sample	0.0011	mg/m3	7300M

The laboratory blank sample was above the reporting limit for Cr
(0.0004 mg/sample). The results were not blank corrected.

Final sample concentrations calculated from air volumes supplied on chain of custody.
< indicates less than the limit of quantitation.

PHILIP**ANALYTICAL SERVICES****Chain of Custody Record**4418 Pottsville Pike Reading, PA 19605
phone: (610) 921-8833 fax: (610) 921-9887**Sample Container Information**Bottle Type ☐
IGP HI ☐
of Containers ☐
Preserved? (Y/N) ☐

Report Results To:	PO #	Job ID	E672	
	Name	Adam Hubbard		
	Company	Sevenson Co. Olin Corp.		
	Mailing Address	51 Ennes St.		
	City	Wilmington	State	MA
Send Invoice To:	City	Wilmington	State	MA
	ZIP	01887	Telephone #	610-453-9678
	Fax #	978-658-8766	Name	
	Telephone #	716-254-0431	Company	Sevenson
	Dept.	Health and Safety	Mailing Address	2749 Lockport Road
	City	Niagara Falls	State	NY
	ZIP	14302	Credit Card #	
	Exp. Date			

Analysis Requested

Analysis Requested
7300 (Chromatogram)
2500 (Fistive Dust)

196091

Page 1 of 1

PAS Quote#

Sampled by:	Air Vol. (L or min)	Matrix Type	Date Sampled	Time Sampled	Comments/Hazards/ Location Details
SAMPLE DESCRIPTION					
1 583299EP8-15A	1060.2	Dust	8/15/01	570	Perimeter East Area A
2 538580WP8-15A	661.2				Perimeter West Area A
3 538902W28-15A	1108.6				Work zone Area A
4 502617UW8-15A	1048.8				Upwind Area A
5 522909DW8-15A	1034.5		8/15/01	570	Downwind Area A
6 502617W28-17A	630		8/17/01	350	Work zone Area A
7 583299DW8-17A	560				Downwind Area A
8 522909UW8-17A	630				Perimeter East Area A
9 538902EP8-17A	672				Perimeter West Area A
10 538580WP8-17A	665	Dust	8/17/01	350	West Perimeter Area A

Special Instructions (including Data Deliverables and Turn Around Time):

Samples relinquished to shipper or courier by:	Date	Time
Samples received by:	Date	Time

Samples Relinquished by:	Samples Relinquished to:	Date	Time
Samples Relinquished by:	Samples Relinquished to Laboratory:	Date	Time

Method of Shipment/Delivery: UPS FED-EX PAS Courier Client drop off Other

Samples Rec'd. on Ice? (Y N n/a)	Temp. Blank	Sample Temp.	Notes:
Samples rec'd intact? (Y N)	Custody seals intact? (Y N n/a)	ID on samples match COC? (Y N)	
VOC Samples have zero headspace? (Y N n/a)	Samples properly preserved? (Y N n/a)		



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 7707E

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
2749 Lockport Road
P.O. Box 396
Niagara Falls NY 14302

Project: 196091
Received: 21-AUG-00
Reported: 28-AUG-00

Project Description: E672
Dust and Chromium Analysis

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
<u>583299EP8-15A</u>					
Air Volume: 1060.2 L					
Lab Sample: 1416255					
sampled: 15-AUG-00					
Particulate, Total	< 0.10	mg/sample	< 0.094	mg/m3	C500
Chromium, Total	0.0007	mg/sample	0.00066	mg/m3	7300M
<u>538580WP8-15A</u>					
Air Volume: 661.2 L					
Lab Sample: 1416256					
sampled: 15-AUG-00					
Particulate, Total	< 0.10	mg/sample	< 0.15	mg/m3	C500
Chromium, Total	0.0007	mg/sample	0.0011	mg/m3	7300M
<u>538902WZ8-15A</u>					
Air Volume: 1108.6 L					
Lab Sample: 1416257					
sampled: 15-AUG-00					
Chromium, Total	0.0007	mg/sample	0.00063	mg/m3	7300M

Unable to report dust - filter and back pad reversed in cassette.



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EDVNLAP 101262-0
• AIIA ACCREDITATION NO 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77676

Client: Severson Environmental Services, Inc.
Project: 195940

RESULT	UNITS	CONCENTRATION	UNITS	METHOD
--------	-------	---------------	-------	--------

538580WZ8/10

Air Volume: 573.8 L
Lab Sample: 1415406
sampled: 10-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.17	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0012	mg/m3	7300M

583299PN8/10

Air Volume: 935.9 L
Lab Sample: 1415407
sampled: 10-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.11	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0007	mg/m3	7300M

502617UW8/10

Air Volume: 923.1 L
Lab Sample: 1415408
sampled: 10-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.11	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0008	mg/m3	7300M

538902PS8/10

Air Volume: 976.7 L
Lab Sample: 1415409
sampled: 10-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.10	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0007	mg/m3	7300M

522909DW8/10

Air Volume: 920.6 L
Lab Sample: 1415410
sampled: 10-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.11	mg/m3	0500
--------------------	--------	-----------	--------	-------	------



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DEH 06-357

• NJ DEP 77672

Client: Severson Environmental Services, Inc.
Project: 195940

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
<u>522909DW8/10</u>					
Lab Sample: 1415410 - continued					
Chromium, Total	0.0008	mg/sample	0.0009	mg/m3	7300M
The laboratory blank sample was above the reporting limit for Cr (0.0004 mg/sample). The results were not blank corrected.					

Final sample concentrations calculated from air volumes supplied on chain of custody.
< indicates less than the limit of quantitation.

PHILIP**ANALYTICAL SERVICES****INDUSTRIAL HYGIENE****ENVIRONMENTAL TESTING**

• EPA/NVLAP 101262-0
• ANHA ACCREDITATION NO. 100139

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

Client: Severson Environmental Services, Inc.
Project: 196378

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
<u>583299EP8-25A (East Perimeter Area A)</u>					
Air Volume: 881.91 L					
Lab Sample: 1417681					
sampled: 25-AUG-00					
Particulate, Total	< 0.10	mg/sample	< 0.11	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0008	mg/m3	7300M

583299DW8-26A (Downwind Area A)

Air Volume: 993.6 L

Lab Sample: 1417682

sampled: 26-AUG-00

Particulate, Total	0.20	mg/sample	0.20	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0007	mg/m3	7300M

538580UW8-26A (Upwind Area A)

Air Volume: 591.3 L

Lab Sample: 1417683

sampled: 26-AUG-00

Particulate, Total	0.12	mg/sample	0.20	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0012	mg/m3	7300M

522909NP8-26A (North Perimeter Area A)

Air Volume: 974.7 L

Lab Sample: 1417684

sampled: 26-AUG-00

Particulate, Total	< 0.10	mg/sample	< 0.10	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0007	mg/m3	7300M

538902SP8-26A (South Perimeter)

Air Volume: 788.4 L

Lab Sample: 1417685

sampled: 26-AUG-00

Particulate, Total	0.13	mg/sample	0.16	mg/m3	0500
--------------------	------	-----------	------	-------	------

PHILIP**ANALYTICAL SERVICES****INDUSTRIAL HYGIENE**

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

ENVIRONMENTAL TESTING

• NY DOH 10903
• PA DER 06-353
• NJ DEP 77678

Client: Severson Environmental Services, Inc.
Project: 196378

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
<u>538902SP8-26A (South Perimeter)</u>					
Lab Sample: 1417685 - continued					
Chromium, Total	0.0007	mg/sample	0.0009	mg/m3	7300M
The laboratory blank sample was above the reporting limit for Cr (0.0004 mg/sample). The results were not blank corrected.					


Final sample concentrations calculated from air volumes supplied on chain of custody.
< indicates less than the limit of quantitation.

Sample Container Information

4418 Pottsville Pike Reading, PA 19605
phone: (610) 921-8833 fax: (610) 921-9667

Bottle Type	<input type="checkbox"/>
(G P IH)	<input type="checkbox"/>
# of Containers	<input type="checkbox"/>
Preserved? (Y/N)	<input type="checkbox"/>

Report Results To:	PO #	Job ID	E-672
	Name	Adam Hibbard	
	Company	Sevenson & Olin Corp.	
	Mailing Address	51 Eames St.	
Send Invoice To:	City	State	ZIP
	Wilmington	MA	01887
	Telephone #	Fax #	
	610-453-9678	978-658-8766	
	Name	Telephone #	
	Sevenson	716-284-0431	
	Company	Dept.	
	Mailing Address	2749 Lockport Road	
	City	State	ZIP
	Niagara Falls	NY	14302
	Credit Card #	Exp. Date	

Analysis
Requested 

Analysis Requested

7300 (Chromium)

0500 (Fugitive Dust)

196378

Page | of |

PAS Quote#

Sampled by:		Air Vol (L or min)	Matrix Type	Date Sampled	Time Sampled	N/A										Comments/Hazards/ Location Details
SAMPLE DESCRIPTION																
1	50267WZ8-25A	836.5	Dust	8-25	478											Work zone Area A
2	53890WP8-25A	683.54														
3	522909DW8-25A	760.4														
4	538580VW8-25A	528.19														
5	583299EP8-25A	881.91		8-25	478											
6	583219DW8-26A	953.6		8-26	540											
7	538580VW8-26A	591.3														
8	522909NP8-26A	974.7														
9	538902SP8-26A	788.4	Dust	8-26	540											
10																

Special Instructions (including Data Deliverables and Turn Around Time):

Samples relinquished to shipper or courier by: <i>Alastair</i>	Date	Time
Samples received by:	8/28/00	1900
	Date	Time

Samples Relinquished by:	Samples Relinquished to:	Date	Time
Samples Relinquished by:	Samples Relinquished to Laboratory: <i>Snare</i>	Date: <i>8/30/01</i>	Time: <i>0930</i>

Method of Shipment/Delivery: ☒ UPS ☒ FED-EX ☐ PAS Courier ☐ Client drop off ☐ Other

Samples Rec'd. on Ice? (Y ☒ N ☒ a) Temp. Blank ☒ Sample Temp. ☒
 Samples rec'd intact? ☒ N ☒ Custody seals intact? (Y ☒ N ☒ a) ID on samples match COC? ☒ N ☒
 VOC Samples have zero headspace? (Y ☒ N ☒ a) Samples properly preserved? (Y ☒ N ☒ a)



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Willimington MA 01887

Project: 196378
Received: 30-AUG-00
Reported: 07-SEP-00

Project Description: E-672: Olin Corp.
IH Metals & Fugitive Dust

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
<u>502617WZ8-25A (Work Zone Area A)</u>					
Air Volume: 836.5 L					
Lab Sample: 1417677					
sampled: 25-AUG-00					
Particulate, Total	0.39	mg/sample	0.47	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0008	mg/m3	7300M
<u>538902WP8-25A (West Perimeter Area A)</u>					
Air Volume: 683.54 L					
Lab Sample: 1417678					
sampled: 25-AUG-00					
Particulate, Total	< 0.10	mg/sample	< 0.15	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0010	mg/m3	7300M
<u>522909DW8-25A (Downwind Area A)</u>					
Air Volume: 850.4 L					
Lab Sample: 1417679					
sampled: 25-AUG-00					
Particulate, Total	0.13	mg/sample	0.15	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0008	mg/m3	7300M
<u>538580UW8-25A (Upwind Area A)</u>					
Air Volume: 528.19 L					
Lab Sample: 1417680					
sampled: 25-AUG-00					
Particulate, Total	< 0.10	mg/sample	< 0.19	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.0013	mg/m3	7300M



4418 Pottsville Pike Reading, PA 19605
phone: (610) 921-8833 fax: (610) 921-9667

Bottle Type	<input type="text"/>
(G P H)	<input type="text"/>
# of Containers	<input type="text"/>
Preserved? (Y/N)	<input type="text"/>

Report Results To:	PO #	Job ID	67-672
	Name	Adam W. Wilson	
	Company	Sevenson & Sons Co.	
	Mailing Address	51 E. 1st St.	
	City	State	ZIP
	Wilmington	DE	19801
	Telephone #	Fax #	
	(410) 41-3400	(410) 41-3400	
Send Invoice To:	Name	Telephone #	
	Company	Dept.	
	Mailing Address		
	City	State	ZIP
	Union Falls	NY	14130
	Credit Card #	Exp. Date	

Analysis Requested ☐

Page of

PAS Quote#

Sampled by:		Air Vol. (L or min)	Matrix Type	Date Sampled	Time Sampled											Comments/Hazards/ Location Details	
SAMPLE DESCRIPTION																	
1	5229156 P8-25A	1105.6	PS	8-25	6:04	X	X										East Perimeter Area A
2	5229177 WP8-25A	1057.6				X	X										West Perimeter Area A
3	553799 NP8-25A	1044.28				X	X										North Perimeter Area A
4	5385501028-29A	1067.42				X	X										Work Zone Area A
5	538902 SP8-29A	884.86		8-25	6:11	X	X										South Perimeter Area A
6	502017 WP8-30A	1116.18		8-30	6:56	X	X										West Perimeter Area A
7	5729096 P8-30A	1128.9				X	X										East Perimeter Area A
8	585739 NP8-30A	1154.34				X	X										North Perimeter Area A
9	5385501028-30A	1050.12				X	X										Work Zone Area A
10	538902 SP1-30A	950.72	DX	8-30	6:30	X	X										South Perimeter Area A

Special Instructions (including Data Deliverables and Turn Around Time):

Samples relinquished to shipper or courier by: <i>[Signature]</i>	Date	Time
Samples received by:	Date	Time

Samples Relinquished by:	Samples Relinquished to:	Date	Time
Samples Relinquished by:	Samples Relinquished to Laboratory: ()	Date 9/1/02	Time 12:02

Method of Shipment/Delivery: ☒ UPS ☒ FED-EX ☐ PAS Courier ☐ Client drop off ☐ Other

Samples Rec'd. on Ice? (Y N (n/a))		Temp. Blank	Sample Temp.	Notes: 1. Sample temp. which is correct 2. VOC for sample is correct
Samples rec'd intact?(Y N)		Custody seals intact?(Y N (n/a))	ID on samples match COC?(Y(N))	
VOC Samples have zero headspace?(Y N (n/a))		Samples properly preserved? (Y N (n/a))		



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0

• NY DOH 10903

• NJ DEP 77678

• AIHA ACCREDITATION NO. 100439

• PA DEH 06-353

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Wilmington MA 01887

Project: 196515
Received: 01-SEP-00
Reported: 12-SEP-00

Project Description: E-672
Chromium and Dust Analysis

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
<u>522909EP8 or UW8-29A</u>					
Air Volume: 1063.04 L					
Lab Sample: 1418300					
sampled: 29-AUG-00					
Chromium, Total	0.0007	mg/sample	0.00066	mg/m3	7300M
Particulate, Total	0.11	mg/sample	0.103	mg/m3	0500
<u>502617WP8 or DW8-29A</u>					
Air Volume: 1087.2 L					
Lab Sample: 1418301					
sampled: 29-AUG-00					
Chromium, Total	0.0007	mg/sample	0.00064	mg/m3	7300M
Particulate, Total	0.18	mg/sample	0.166	mg/m3	0500
<u>583299NP8-29A</u>					
Air Volume: 1099.28 L					
Lab Sample: 1418302					
sampled: 29-AUG-00					
Chromium, Total	0.0006	mg/sample	0.00055	mg/m3	7300M
Particulate, Total	0.13	mg/sample	0.118	mg/m3	0500
<u>538580WZ8-29A</u>					
Air Volume: 667.42 L					
Lab Sample: 1418303					
sampled: 29-AUG-00					
Chromium, Total	0.0007	mg/sample	0.0010	mg/m3	7300M
Particulate, Total	< 0.10	mg/sample	< 0.15	mg/m3	0500

INDUSTRIAL HYGIENE**ENVIRONMENTAL TESTING**

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DEH 06-353

• NJ DEP 77678

Client: Severson Environmental Services, Inc.
Project: 196615

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
538902SP8-29A					
Air Volume: 884.86 L					
Lab Sample: 1418304					
sampled: 29-AUG-00					
Chromium, Total	0.0008	mg/sample	0.0009	mg/m3	7300M
Particulate, Total	0.48	mg/sample	0.54	mg/m3	0500

502617WP8 or DW8-30A
Air Volume: 1116.18 L
Lab Sample: 1418305
sampled: 30-AUG-00

Chromium, Total	0.0007	mg/sample	0.00063	mg/m3	7300M
Particulate, Total	< 0.10	mg/sample	< 0.090	mg/m3	0500

522909EP8 or UW8-30A
Air Volume: 1128.9 L
Lab Sample: 1418306
sampled: 30-AUG-00

Chromium, Total	0.0007	mg/sample	0.00062	mg/m3	7300M
Particulate, Total	< 0.10	mg/sample	< 0.089	mg/m3	0500

583299NP8-30A
Air Volume: 1154.34 L
Lab Sample: 1418307
sampled: 30-AUG-00

Chromium, Total	0.0007	mg/sample	0.00061	mg/m3	7300M
Particulate, Total	0.10	mg/sample	0.087	mg/m3	0500

538580WZ8-30A
Air Volume: 696.42 L
Lab Sample: 1418308
sampled: 30-AUG-00

Chromium, Total	0.0008	mg/sample	0.0011	mg/m3	7300M
Particulate, Total	0.35	mg/sample	0.50	mg/m3	0500

PHILIP

ANALYTICAL SERVICES

page 3 of 3

12SEP00_1843_13_N1261_RFR

INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIIA ACCREDITATION NO 100439

• NY DOH 10903
• PA DCR 06-353
• NJ DEP 7767R

Client: Severson Environmental Services, Inc.
Project: 196515

	<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
<u>538902SP8-30A</u>					
Air Volume: 950.82 L					
Lab Sample: 1418309					
sampled: 30-AUG-00					
Chromium, Total	0.0007	mg/sample	0.0007	mg/m3	7300M
The laboratory blank sample was above the report limit for Cr (0.0006 mg/sample). The results were not blank corrected.					
Particulate, Total	< 0.10	mg/sample	< 0.11	mg/m3	0500

Final sample concentrations calculated from air volumes supplied on chain of custody.
< Indicates less than the limit of quantitation.



Chain of Custody Record

4418 Pottsville Pike Reading, PA 19605
phone: (610) 921-8833 fax: (610) 921-9667

Sample Container Information

Bottle Type	(G P IH)
# of Containers	
Preserved? (Y/N)	

Report Results To:	PO #	Job ID			
	Name				
	Company				
	Mailing Address				
	City	State	ZIP		
Send Invoice To:	Telephone #	Exp #			
	Name	Telephone #			
	Company	Dept.			
	Mailing Address				
	City	State	ZIP		
Credit Card #			Exp. Date		

Analysis Requested

Analysis Requested

196758

Page 1 of 1

PAS Quote#

Sampled by:		Alt Vol. (L or min)	Matrix Type	Date Sampled	Time Sampled											Comments/Hazards/ Location Details
SAMPLE DESCRIPTION																
1	1.83219 NP-1.1 A	1110.78	Dust	7-10-00	10:12	X	X									North Palmetto Area A
2	1.12.9091 P9-6 A	076.20				X	X									East "
3	1.12.9092 SP9-6 A	802.92				X	X									South "
4	1.02.0171 NP9-6 A	1055.7		7-10-00	02:12	X	X									West "
5	1.33580 NP9-7 A	1042.32		7-7-00	00:06	X	X									North "
6	1.12.9091 SP9-2 A	1090.8				X	X									South "
7	1.33580 NP9-7 A	1050.8				X	X									West "
8	1.02.0171 NP9-7 A	1042.32	Dust	7-7-00	00:06	X	X									East "
9																
10																

Special Instructions (including Data Deliverables and Turn Around Time):

Samples relinquished to shipper or courier by:	Date	Time
Samples received by:	Date	Time

Samples Relinquished by:	Samples Relinquished to:	Date	Time
Samples Relinquished by:	Samples Relinquished to Laboratory:	Date	Time

Method of Shipment/Delivery: UPS FED-EX PAS Courier Client drop off Other

Samples Rec'd. on Ice? (Y/N/n/a)	Temp. Blank	Sample Temp.	Notes:
Samples rec'd intact?(Y/N)	Custody seals intact?(Y/N n/a)	ID on samples match COC?(Y/N)	
VOC Samples have zero headspace?(Y/N n/a)	Samples properly preserved?(Y/N n/a)		



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIIIA ACCREDITATION NO. 100439

• NY DOH 10300
• PA DER 06-353
• NJ DEP 71-126

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Willimington MA 01887

Project: 196758
Received: 12-SEP-00
Reported: 19-SEP-00

Project Description: E672: IH Metals & Dust
Sampled 9/6 & 9/7/00

<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
---------------	--------------	----------------------	--------------	---------------

583299NP9-6A, North Perimeter Area A

Air Volume: 1110.78 L

Lab Sample: 1419174

sampled: 06-SEP-00

Particulate, Total	0.21	mg/sample	0.189	mg/m3	0500
Chromium, Total	0.0008	mg/sample	0.00072	mg/m3	7300M

522909EP9-6A, East Perimeter Area A

Air Volume: 676.26 L

Lab Sample: 1419175

sampled: 06-SEP-00

Particulate, Total	0.20	mg/sample	0.30	mg/m3	0500
Chromium, Total	0.0008	mg/sample	0.0012	mg/m3	7300M

538902SP9-6A, South Perimeter Area A

Air Volume: 862.92 L

Lab Sample: 1419176

sampled: 06-SEP-00

Particulate, Total	< 0.10	mg/sample	< 0.12	mg/m3	0500
Chromium, Total	0.0008	mg/sample	0.0009	mg/m3	7300M

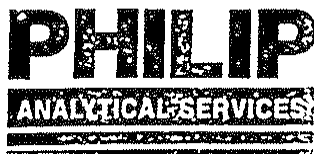
502617WP9-6A, West Perimeter Area A

Air Volume: 1055.7 L

Lab Sample: 1419177

sampled: 06-SEP-00

Particulate, Total	< 0.10	mg/sample	< 0.095	mg/m3	0500
Chromium, Total	0.0008	mg/sample	0.00076	mg/m3	7300M



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77675

Client: Severson Environmental Services, Inc.
Project: 196758

	RESULT	UNITS	CONCENTRATION	UNITS	METHOD
<u>538580NP9-7A, North Perimeter Area A</u>					
Air Volume: 1042.32 L					
Lab Sample: 1419178					
sampled: 07-SEP-00					
Particulate, Total	< 0.10	mg/sample	< 0.096	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.00067	mg/m3	7300M

522909SP9-7A, South Perimeter Area A
Air Volume: 1090.8 L
Lab Sample: 1419179
sampled: 07-SEP-00

Particulate, Total	< 0.10	mg/sample	< 0.092	mg/m3	0500
Chromium, Total	0.0008	mg/sample	0.00073	mg/m3	7300M

538902WP9-7A, West Perimeter Area A
Air Volume: 1090.8 L
Lab Sample: 1419180
sampled: 07-SEP-00

Particulate, Total	0.11	mg/sample	0.101	mg/m3	0500
Chromium, Total	0.0007	mg/sample	0.00064	mg/m3	7300M

502617EP9-7A, East Perimeter Area A
Air Volume: 1042.32 L
Lab Sample: 1419181
sampled: 07-SEP-00

Particulate, Total	0.19	mg/sample	0.182	mg/m3	0500
Chromium, Total	0.0008	mg/sample	0.00077	mg/m3	7300M

The laboratory blank sample was above the reporting limit for Cr
(0.0006 mg/sample). The results were not blank corrected.

Final sample concentrations calculated from air volumes supplied on chain of custody.
< Indicates less than the limit of quantitation.

PHILIP

ANALYTICAL SERVICES

Chain of Custody-Record

4418 Pottsville Pike Reading, PA 19605
phone: (610) 921-8833 fax: (610) 921-9667

Sample Container Information

Bottle Type ☐ (G P H)
of Containers ☐
Preserved? (Y/N) ☐

Report
Results

To:

PO # Job ID E672
Name Adam Hubbard
Company Servenson Co Olin Corp
Mailing Address 51 Eames St.
City Wilmington State MA ZIP 01887
Telephone # 978-657-4546 Fax # 978-657-4629

Send
Invoice

To:

Name Servenson Telephone # 716-284-0431
Company Servenson Dept.
Mailing Address 2749 Lockport Rd
City Niagara Falls State NY ZIP 14302
Credit Card # Exp. Date

Analysis
Requested

NIOSH Method 7200 (Ozone)
NIOSH Method 9500 (Fugitive Dust)

197013

Page 1 of 1

PAS Quote#

Sampled by:

SAMPLE DESCRIPTION

Alr Vol (L
or min)

Matrix
Type

Date
Sampled

Time
Sampled

Comments/Hazards/ Location Details

1 502617NP9-14A
2 538902WP9-14A
3 538580EP9-14A
4 522909SP9-14A
5
6
7
8
9
10

North Perimeter A
West "
East "
South "

Special Instructions (including Date Deliverables and Turn Around Time):

Samples relinquished to
shipper or courier by:

Date 12-19-00 Time 1730

Samples received by:

Date Time

Samples Relinquished by:

Samples Relinquished to:

Date Time

Samples Relinquished by:

Samples Relinquished to
Laboratory: PHILIP

Date 12/20/00 Time 10:00

Method of Shipment/Delivery: UPS FED-EX PAS Courier Client drop off Other

Samples Rec'd. on Ice? (Y N) (n/a)

Temp. Blank

Sample Temp.

Samples rec'd intact? (Y N) (Y)

Custody seals intact? (Y N) (n/a)

ID on samples match COC? (Y N) (Y)

Notes:

VOC Samples have zero headspace? Y N S tes irly rvec Y N

INDUSTRIAL HYGIENE**ENVIRONMENTAL TESTING**• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439• NY DOH 10903
• PA DER 06-353

• NJ DEP 77676

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Willimington MA 01887

Project: 197013
Received: 20-SEP-00
Reported: 25-SEP-00

Project Description: E672
Dust and Chromium Analysis

	<u>RESULT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>DATE</u>	<u>ANALYST</u>
<u>502617NP9-14A</u> Lab Sample: 1420185					
Particulate, Total	0.35	mg/sample	0500	21-SEP-00	JDC
Chromium, Total	0.0006	mg/sample	7300M	09-SEP-00	JLH
<u>538902WP9-14A</u> Lab Sample: 1420186					
Particulate, Total	< 0.10	mg/sample	0500	21-SEP-00	JDC
Chromium, Total	0.0007	mg/sample	7300M	09-SEP-00	JLH
<u>538580EP9-14A</u> Lab Sample: 1420187					
Particulate, Total	< 0.10	mg/sample	0500	21-SEP-00	JDC
Chromium, Total	0.0006	mg/sample	7300M	09-SEP-00	JLH
<u>522909SP9-14A</u> Lab Sample: 1420188					
Particulate, Total	< 0.10	mg/sample	0500	21-SEP-00	JDC
Chromium, Total	0.0007	mg/sample	7300M	09-SEP-00	JLH

The Laboratory Blank Sample was above the reporting limit for Cr (0.0006 mg/sample). The results were not blank corrected.

< Indicates less than the limit of quantitation.

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION: <i>Olin Corp Job site EG72</i>	Health & Safety Officer: <i>Adam T. Hibbard</i>	DATE: <i>8/9/00</i>
--	--	---------------------

WEATHER: *Sunny - Temp : 75-85 °F Humid*

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	538580	1.85LPM	1.75LPM	1.80LPM	585min.	1053		538580 W2 8/9 522909 DW 8/9
2.	522909	1.85LPM	1.70LPM	1.775 1.725 LPM	585min.	1038.4		522909 DW 8/9
3.	583299	1.85LPM	1.81LPM	1.83LPM	585min.	1070.6		583299 PN 8/9
4.	538902	1.85LPM	1.76LPM	1.805 1.80 LPM	585min.	1055.9		538902 PS 8/9
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION:	Health & Safety Officer:	DATE: <u>8/17/00</u>
<u>Olin Corp. E672</u>	<u>Adam H. Wood</u>	

WEATHER: Sunny ~~Sunny~~ 65-80 °F

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	502617	1.80	1.80	1.80	350	630		502617WZ8-
2.	583299	1.84	1.74	1.60	350	560		583299DW8-17A
3.	522909	1.78	1.82	1.80	350	630		522909UW8-17A
4.	538902	1.56	2.29	1.92	350	672		538902EP8-17A
5.	538580	1.12	2.68	1.90	350	665		538580WP8-17A
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION: <i>Olin Corp</i>	Health & Safety Officer: <i>Adam Hibbard</i>	DATE: <i>8 / 22 / 00</i>

WEATHER: *Sunny, clear* *55 - 70 °F* *Wind from the North*

PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
<i>538902</i>	<i>1.53</i>	<i>1.48</i>	<i>1.505</i>	<i>617 min</i>	<i>928.6</i>		<i>538902WZ8-21-A</i>
<i>522909</i>	<i>1.78</i>	<i>1.72</i>	<i>1.75</i>	<i>617 min</i>	<i>1079.8</i>		<i>522909DW8-21-A</i>
<i>538580</i>	<i>1.10</i>	<i>1.13</i>	<i>1.115</i>	<i>617 min</i>	<i>688.0</i>		<i>538580UW8-21-A</i>

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION:

Olin Corp.

Health & Safety Officer:

Adam Hibbard

DATE:

8/10/00

Start time *0800*

WEATHER:

Sunny Temp 75-85°F Humid

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	<i>53850</i>	<i>1.12</i>	<i>1.13</i>	<i>1.125</i>	<i>510 min</i>	<i>573.75</i>		<i>53858DWZ 8/10</i>
2.	<i>522909</i>	<i>1.82</i>	<i>1.79</i>	<i>1.805</i>	<i>510 min</i>	<i>920.55</i>		<i>522909DW 8/10</i>
3.	<i>583299</i>	<i>1.85</i>	<i>1.82</i>	<i>1.835</i>	<i>510 min</i>	<i>935.85</i>		<i>583299PN 8/10</i>
4.	<i>538902</i>	<i>1.55</i>	<i>2.28</i>	<i>1.915</i>	<i>510 min</i>	<i>976.65</i>		<i>538902PS 8/10</i>
5.	<i>502617</i>	<i>1.85</i>	<i>1.77</i>	<i>1.81</i>	<i>510 min</i>	<i>923.1</i>		<i>502617UW 8/10</i>
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION: <i>Olin Corp E672</i>	Health & Safety Officer: <i>Adam Hubbard</i>	DATE: <i>8/15/00</i>

WEATHER: *Cloudy*

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	583299	1.83	1.89	1.86	570 min	1060.2		583299EP8-15A
2.	538580	1.18	1.14	1.16	570 min	661.2		538580WP8-15A
3.	538902	1.57	2.32	1.945	570 min	1108.65		538902WZ8-15A
4.	502617	1.85	1.83	1.84	570 min	1048.8		502617UW8-15A
5.	522909	1.82	1.81	1.815	570 min	1034.55		522909DW8-15A
6.								522909DW8-15A
7.								
8.								
9.								
10.								
11.								
12.								

M:\HEALTH\CORP\FORMS\PUMPCAL

8/15 Start time 07:30

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION: <u>Chin Corp E 672</u>	Health & Safety Officer: <u>Adam Hubbard</u>	DATE: <u>8/23/00</u>

WEATHER: Sunny 65-80°F Wind NE

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	522909	1.83	1.72	1.775	625	1109.4		522909UP8-23A
2.	538902	1.55	1.46	1.505 1.505	625	940.6		538902DW8-23A
3.	538580	1.12	1.10	1.11 1.11	625	693.8		538580W28-23A
4.	588299	1.82	1.85	1.835	625	1146.9		583299WP8-23A
5.	502617	1.78	1.65	1.715	625	1071.9		502617EP8-23A
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION:	Health & Safety Officer:	DATE: <u>8/24/00</u>
<u>Olin Corp. E672</u>	<u>Adam Hibbard</u>	

WEATHER:

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	502617	1.74	1.70	1.72	560	963.2		502617WP8-24A
2.	538580	1.81	1.76	1.785	560	999.6		538580UW8-24A
3.	538902	1.83	1.77	1.80	560	1008		538902DW8-24A
4.	583299	1.84	1.81	1.825	560	1022		583299EP8-24A
5.	522909	1.82	1.77	1.795	560	1005.2		522909W28-24A
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION:	Health & Safety Officer:	DATE: <u>8/25/00</u>
<u>Olin Corp E 672</u>	<u>Adam Hubbard</u>	
WEATHER: <u>Sunny</u>		

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	502617	1.78	1.72	1.75	478	836.5		502617W28-25A
2.	538902	1.47	1.39	1.43	478	683.54		538902WP8-25A
3.	522909	1.81	1.79	1.80	478	860.4		522909DW8-25A
4.	538580	1.12	1.09	1.105	478	528.19		538580DW8-25A
5.	583299	1.86	1.83	1.845	478	881.41		583299EP8-25A
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION:	Health & Safety Officer:	DATE: <u>6/26/00</u>
Olin Corp. E672	Adam Hibbard	

WEATHER: Sunny Humid

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	583299	1.85	1.83	1.84	540	993.6		583299 DW 8-26 A
2.	538580	1.09	1.10	1.095	540	591.3		538580 UW 8-26 A
3.	522909	1.81	1.80	1.805	540	974.7		522909 NP 8-26 A
4.	538902	1.45	1.47	1.46	540	788.4		538902 SP 8-26 A
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION:

Olin Corp. E672

Health & Safety Officer:

Adam Hibbard

DATE: 8/28/00

WEATHER:

Partly Sunny

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	583299	1.86	1.81	1.835	620 min	1137.7		583299W28-28A
2.	502617	1.82	1.80	1.81	620	1122.2		502617W28-28A
3.	538902	1.47	1.45	1.46	620	905.2		538902CP28-28A
4.	538580	1.13	1.12	1.125	620	697.5		538580DW28-28A
5.	522909	1.89	1.88	1.885	620	1168.7		522909UW28-28A
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION:

Chn Corp. E673

Health & Safety Officer:

Adam Hubbard

DATE: *8/29/00*

WEATHER:

Sunny

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	522909	1.78	1.74	1.76	604	1063.04		522909 EP 8-29 A
2.	502617	1.81	1.79	1.80	604	1087.2		502617 WP 8-29 A
3.	583299	1.84	1.80	1.82	604	1095.28		583299 NPS-29 A
4.	538580	1.12	1.09	1.105	604	667.42		538580 W 28-29 A
5.	538902	1.48	1.45	1.465	604	884.86		538902 SP 8-29 A
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION: <i>On Remediation E672</i> <i>(Armonia)</i> <i>Test pit excavation West Plant B</i>	Health & Safety Officer: <i>Adam Hibbard</i>	DATE: <i>11 / 2 / 00</i>
---	---	--------------------------

WEATHER: *Clear 45°F - 60°F*

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	538580	1.52	1.51	1.515	600	909		538580NB11-2
2.	538902	1.81	1.76	1.785	600	1071		538902EP11-2
3.	583299	1.46	1.44	1.45	600	870		583299NCEP11-2
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION: <i>Olir Remediation</i>	Health & Safety Officer: <i>Adam Hibbard</i>	DATE: <i>10/27/00</i>
<i>Benfonite mixing</i>		
WEATHER: <i>Clear</i>		

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME (min)	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	538902	1.44	1.40	1.42	378	536.26		538902SW 10-27
2.	538580	1.05	1.04	1.045	378	395.01		538580 SCM 10-27
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY- PUMP CALIBRATION DATA

RE LOCATION:

Other Remediation

(Ammonia)

Test pits - Water treatment B

Health & Safety Officer:

Adam Hubbard

DATE: 11 / 1 / 00

EATER:

Cloudy

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME (hr)	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	522909	1.83	1.80	1.815	413	749.60		522909ESP 11-1
2.	538580	1.05	1.04	1.045	413	431.59		538580NB 11-1
3.	538902	1.46	1.45	1.455	413	600.92		538902ESP 11-1
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.								
19.								
20.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION:	Health & Safety Officer:	DATE: <u>9/14/00</u>
Offic Remediation	Adam H. Hobbs	

WEATHER: Mostly Sunny

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	538580	1.05	1.02	1.035	620	641.7		538580EP9-14A
2.	522909	1.85	1.84	1.845	620	1143.9		522909SP9-14A
3.	538902	1.46	1.41	1.435	620	889.7		538902WP9-14A
4.	502617	1.76	1.69	1.725	620	1070.74		502617NP9-14A
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION: <i>Olis Remediation E672</i>	Health & Safety Officer: <i>N Adam H. Board</i>	DATE: <i>9/17/00</i>

WEATHER: *Cool, clear*

	PUMP NUMBER	PRESAMPLE FLOW RATE (L)	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	538580	1.73	1.71	1.72	606	1042.32		538580 NP9-7A
2.	522909	1.81	1.79	1.80	606	1090.8		522909 SP9-7A
3.	538902	1.83	1.77	1.80	606	1090.8		538902 WP9-7A
4.	502617	1.75	1.69	1.72	606	1042.32		502617 EP9-7A
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION:

Olin Corp. E672

Health & Safety Officer:

Adam Hubbard

DATE: *8/30/02*

WEATHER:

Mostly Sunny

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	<i>502617</i>	<i>1.79</i>	<i>1.72</i>	<i>1.755</i>	<i>636</i>	<i>1116.18</i>		<i>502617 WP 8-30A</i>
2.	<i>522909</i>	<i>1.80</i>	<i>1.75</i>	<i>1.775</i>	<i>636</i>	<i>1128.9</i>		<i>522909 BP 8-30A</i>
3.	<i>583299</i>	<i>1.83</i>	<i>1.80</i>	<i>1.815</i>	<i>636</i>	<i>1154.34</i>		<i>583299 NP 8-30A</i>
4.	<i>538580</i>	<i>1.12</i>	<i>1.07</i>	<i>1.095</i>	<i>636</i>	<i>696.42</i>		<i>538580 WL 8-30A</i>
5.	<i>538902</i>	<i>1.51</i>	<i>1.48</i>	<i>1.495</i>	<i>636</i>	<i>950.82</i>		<i>538902 SP 8-30A</i>
6.								
7.								
8.								
9.								
10.								
11.								
12.								

DAILY AIR MONITORING SUMMARY - PUMP CALIBRATION DATA

SITE LOCATION:	Health & Safety Officer:	DATE: <u>9/6/00</u>
Olin Corp. Remediation	Adam Hibbard	

WEATHER:

	PUMP NUMBER	PRESAMPLE FLOW RATE	POSTSAMPLE FLOW RATE	AVERAGE FLOW RATE	TOTAL SAMPLE TIME	VOLUME AIR COLLECTED (LITERS)	TUBE LOT NO.	SAMPLE I.D. NO.
1.	583299	1.83	1.80	1.815	612	1110.78		583299 NP9-6A
2.	522509 522580	1.11	1.10	1.105	612	676.26		522509 EP9-6A
3.	538902	1.43	1.39	1.41	612	862.92		538902 SP9-6A
4.	502617	1.74	1.71	1.725	612	1055.7		502617 WP9-6A
5.								
6.								
7.								
8.								
9.								
0.								
1.								
2.								

TO-15/TO-15 GC/MS Volatiles Report

Sample: Philip 100245 Sevenson SVI Cnr 8/2/00

Autosampler: 4

Dil. Fact: 2.0

Misc: nation of: 500ml; can 12301

5970M000

Method: F400IS

File: C:\HPCHEM\110400

1414119.D

Reporting

Compd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limit ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1342301	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.25	85.00	13892	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl-1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	84.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethane	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	83.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		8.76	130.00	330238	47.1		94%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.23	78.00	110135	2.0	1.3	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1352369	39.9		80%
23	Trichloroethene	78-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.22	91.00	212424	3.2	1.3	
27	trans-1,3-dichloropropene	10061-02-8	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.70	91.00	32364	ND	1.3	
33	m,p-Xylene	1330-20-7	18.91	91.00	79323	ND	1.3	
34	o-Xylene	95-47-8	17.44	91.00	40903	ND	1.3	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.99	95.00	687399	47.0		94%
38	1,3,5-Trimethylbenzene	108-57-8	19.13	105.00	25258	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	23534	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	148.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	19.51	91.00	28960	ND	1.3	
42	1,4-Dichlorobenzene	106-48-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	148.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10.ND

615_20F.D

615_30F.D

Date Printed:

8/10/00 10:01 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits.

SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SP8-1 Fused Silica; Nutech -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Sample: Philip 190445 Sevenson SE Sids 8/2/00

Autosampler: 3

Dil. Factor: 1.7

Misc: nation oil, 500ml, can 0183

5970MSI

Method: 8400IS

File: C:\HPCHEM\10420

1414120.D

Reporting

Compd #	Compound	CAS #	P.T.	Q Ion	Area	ppbv	Limit ppbv	IS/SS Recovery
1	Chlorobenzene-d5 (IS)		15.09	117.00	1354070	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	25.00	19110	ND	0.8	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.8	
4	1,2- Cl, 1,1,2,2-F ethane (114)	78-14-2	0.00	25.00	0	ND	0.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.8	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.8	
9	Trichlorofluoromethane (11)	75-69-4	6.13	101.00	13797	ND	0.8	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.8	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.8	
12	Methylene Chloride	75-09-2	7.50	84.00	10576	ND	0.8	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.8	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.8	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.8	
16	Bromochloromethane (SS)		9.78	130.00	338676	47.8		96%
17	Chloroform	67-66-3	0.00	63.00	0	ND	0.8	
18	1,1,1-Trichloroethane	71-55-8	0.00	97.00	0	ND	0.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.8	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.8	
21	Benzene	71-43-2	11.23	78.00	107616	1.2	0.8	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1405741	41.1		82%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.8	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.8	
26	Toluene	108-88-3	14.22	91.00	258895	2.4	0.8	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.8	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.8	
29	Tetrachloroethene	127-18-4	15.39	184.00	11932	ND	0.8	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.8	
32	Ethyl benzene	100-41-4	16.71	91.00	48681	ND	0.8	
33	m,p-Xylene	1330-20-7	16.81	91.00	115123	ND	0.8	
34	o-Xylene	95-47-6	17.44	91.00	47005	ND	0.8	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.8	
37	Bromofluorobenzene (SS)		17.98	95.00	687746	47.3		95%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	29807	ND	0.8	
39	1,2,4-Trimethylbenzene	95-63-6	19.84	105.00	44440	ND	0.8	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.8	
41	Benzyl chloride	100-44-7	19.51	91.00	11558	ND	0.8	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.8	
43	1,2-Dichlorobenzene	95-50-1	0.00	148.00	0	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.8	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.8	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69238, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/10/00 10:00 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; Nutech: -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

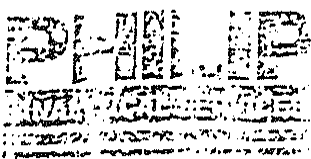
Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

AIR MONITORING

Summa Canisters - Olin Drum Phase, Wilmington, MA

Job # E 672

Date	Start Time	Stop Time	Canister Number	Location	Final Vacuum Reading
9-7-00	0715	1706	93081	SW of drum Area A	2.0
↓	↓	↓	A301	East of First gate to bio cell	10.0
↓	↓	↓	12018	North of Area B	0.0
9-7-00	0715	1706	12467	North of concrete soil pad	0.0
9-8-00	0730	1715	12155	SW of drum Area A	2.5
↓	↓	↓	93218	East of First gate to bio cell	11.0
↓	↓	↓	12638	North of Area B	12.5
9-8-00	0730	1715	12830	North of concrete soil pad	0.0
9-11-00	1000	1000	93020	SW of drum Area A	18.0
↓	↓	↓	93229	East of First gate to bio cell	0.0
↓	↓	↓	9428BB	North of Area B	0.0
9-11-00	1000	1000	9405B	North of concrete soil pad	14.0
9-13-00	1030	1830	93294	SW of drum Area A	14.0
↓	↓	↓	A301	East of First gate to bio cell	3.5
↓	↓	↓	9334B	North of concrete soil pad	16.0
9-13-00	1030	1830	12256	North of Area B	0.0
9-18-00	0800	1715	93254	SW of drum Area A	15.0
↓	↓	↓	93120	East of First gate to bio cell	11.5
↓	↓	↓	12533	North of concrete soil pad	0.0
9-18-00	0800	1715	93047	North of Area B	5.0
9-23-00	0715	1730	11344	North side of Bio cell (upwind)	0.0
↓	↓	↓	93242	South side of Bio cell (downwind)	0.0
↓	↓	↓	11412	North side of sediment Debris Area	15.0
9-28-00	0710	1730	0183	South side of sediment Debris Area	0.0
9-29-00	0730	1730	92044	North side of Bio cell (upwind)	0.0
↓	↓	↓	92025	South side of Bio cell (downwind)	0.0
↓	↓	↓	93178	North side of sediment Debris Area (upwind)	16.00
9-29-00	0730	1730	12488	South side of Debris Area (downwind)	3.0
10-2-00	1030	1715	11373	North side of Bio cell (upwind)	
↓	↓	↓	9624B	South side of Bio cell (downwind)	
↓	↓	↓	04324	North side of Debris Area (upwind)	
10-2-00	1030	↓	93274	West side of Debris Area (upwind)	
↓	↓	↓	9279BB	South side of Debris Area (downwind)	
10-2-00	1030	1715	A291	East North side of Debris Area	



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• ENVIRONMENTAL HYGIENE
• INDUSTRIAL HYGIENE• INDUSTRIAL HYGIENE
• ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Mark Nicklas
Severson Environmental Services, Inc.
2749 Lockport Road
P.O. Box 396
Niagara Falls NY 14304

Project: 195645
Received: 04-AUG-00
Reported: 17-AUG-00

Project Description: Olin Remediation
TO-15 plus Lib. Search

Sampled: 02-AUG-00 17:45

<u>RESULT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>DATE</u>	<u>ANALYST</u>
---------------	--------------	---------------	-------------	----------------

#12301 S.W. Comer
Lab Sample: 1414119

See Attached Report

#0183 S.E. Side
Lab Sample: 1414120

See Attached Report

#11412 Pad Area
Lab Sample: 1414121

See Attached Report

#93242 (Upwind)
Lab Sample: 1414122

See Attached Report

< Indicates less than the limit of quantitation.

AIR MONITORING

Summa Canisters - Olin Drum Phase, Wilmington, MA

Job # E 672

Date	Start Time	Stop Time	Canister Number	Location	Final Vacuum Reading
8-2-00	0945	1745	12301	NORTH SIDE of DRUM AREA A	10.5
↓	↓	↓	0183	NORTH SIDE of DRUM AREA B	0.0
↓	↓	↓	11412	NORTH SIDE of DEBRIS/soil PAD	7.5
8-2-00	0945	1745	93242	UPWIND	10.0
8-7-00	0800	1600	12474	NORTH SIDE of DRUM AREA A	10.5
↓	↓	↓	809	NORTH SIDE of DRUM AREA B	9.0
↓	↓	↓	93294	NORTH SIDE of DEBRIS/soil PAD	8.0
8-7-00	0800	1600	12630	UPWIND	10.1
8-8-00	0730	1730	12256	NORTH SIDE of DRUM AREA A	10.0
↓	↓	↓	A304	NORTH SIDE of DRUM AREA B	10.0
↓	↓	↓	9102B	NORTH SIDE of DEBRIS/soil PAD	0.0
8-8-00	0730	1730	93343	UPWIND	0.0
8-9-00	0730	1730	11291	North side of drum area A	0.0
↓	↓	1730	93017	NORTH SIDE of DRUM AREA B	10.5
↓	↓	1730	12638	NORTH SIDE of DEBRIS/soil PAD	9.2
8-9-00	0730	1730	0164	UPWIND	2.0
8-10-00	0730	1530	12618	North side of drum area A	7.5
↓	↓	↓	12467	North side of drum area B	11.0
↓	↓	↓	93081	North side of debris/soil pad	0.0
8-10-00	0730	1530	A301	UPWIND	4.0
8-15-00	0700	1700	93023	North side of drum area A (upwind)	4.4
↓	↓	1700	9349B	North side of drum area B	6.3
↓	↓	1700	11373	North side of debris/soil pad	13.7
8-15-00	0700	1700	9624B	UPWIND On Road to bridge (downwind)	13.2
8-16-00	0700	1000	12163	North side of drum area A	18.3
↓	↓	↓	04310	North side of drum area B	26.2
↓	↓	↓	12300	North side of soil pad	21.0
8-16-00	0700	1000	93078	On Road near first gate	16.2
8-17-00	0730	1500	12610	North side of drum area A (upwind)	22.5
↓	↓	↓	A305	North side of D.A.B	15.5
↓	↓	↓	12852	North of soil pad	22.4
8-17-00	0730	1500	93214	on road near first gate (downwind)	0.0

AIR MONITORING

Summa Canisters - Olin Drum Phase, Wilmington, MA

Job # E 672

Date	Start Time	Stop Time	Canister Number	Location	Final Vacuum Reading
8-22-00	0715	1800	04162	North of pad	3.0
↓	↓	↓	02302	North of B.	5.0
↓	↓	↓	9354B	Upwind	6.0
8-22-00	0715	1800	02316	North of A	8.0
8-23-00	0715	1730	A301	North of B (spurred)	0.0
↓	↓	↓	12467	North of PAD	0.0
↓	↓	↓	12618	North West of A	10.0
8-23-00	0715	1730	93081	Gate to bio pad (upwind)	10.0
8-24-00	0700	1705	93256	North of B	10.0
↓	↓	↓	04324	North of Pad	2.1
↓	↓	↓	9279BB	North of A	7.0
8-24-00	0700	1705	93278	Gate to bio pad	0.0
8-25-00	0715	1730	93139	NORTH of DEBRIS/soil PAD	0.0
↓	↓	↓	04421	NORTH of AREA A	10.0
↓	↓	↓	93208	NORTH of AREA B	0.0
5-00	0715	1730	92092	GATE TO Bio-PAD	8.5
8-26-00	0700	1630	9153B	North of Debris/soil pad	13.0
↓	↓	↓	03129	North of Area A	0.0
↓	↓	↓	93048	North of Area B	8.0
8-26-00	0700	1630	11208	Gate to bio pad	6.0
8-28-00	0700	1700	12461	North of Debris/soil pad	8.2
↓	↓	↓	A270	South West North of Area A	9.1
↓	↓	↓	93277	North of Area B	7.7
8-28-00	0700	1700	12424	Gate to bio Pad	10.4
8-29-00	0715	1700	93054	North of Debris/soil pad	4.9
↓	↓	↓	12311	South West of Area A	9.8
↓	↓	↓	9331B	North of Area B	11.2
8-29-00	0715	1700	04170	East of first gate to bio pad	12.9
8-30-00	0700	1715	93000	North of Debris/soil Pad	11.0
↓	↓	1715	8818B	South West of Area A	5.3
↓	↓	1715	93141	North of Area B	9.7
8-30-00	0700	1715	12898	East of first gate to bio pad	13.6
9-6-00	0715		02316	North of Debris/soil Pad	7.5
↓	↓		9354B	South West of Area A	0.0
↓	↓		02302	North of Area B	0.0
9-00	0715		04162	East of first gate to bio pad	8.0

VOC AND TIC DATA

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120

Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS
NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 195645

Sample Date: 8/2/2000

Matrix: Air in Summa Canister

Analysis Date: 8/9/2000

Date Received: 8/4/2000

Sample ID: 1414119 canister 12301 "SW Corner"

Compound Estimated ppbv*

Ethanol 14

alpha-methylstyrene 18

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1414120 canister 183 "SE Side"

Compound Estimated ppbv*

Dimethyl ether 5

Pentane 7

Carbon disulfide 13

Dimethyl disulfide 16

Dimethyl trisulfide 31

Camphor 37

Isopinocampheol 5

2,3,7-trimethyl octane 5

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 195645.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120

Raleigh, NC 27617



ISO 17025 Compliant

919 510-0223 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS

NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 195645

Sample Date: 8/2/2000

Matrix: Air in Summa Canister

Analysis Date: 8/9/2000

Date Received: 8/4/2000

Sample ID: 1414121 canister 11412 "Pad Area"

Compound Estimated ppbv*

Ethanol	13
Dodecane	7
2,6-dimethyl undecane	15
2,3,7-trimethyl octane	17

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1414122 canister 93242 "Upwind"

Compound Estimated ppbv*

3-penten-2-one	38
4-ethyl-1,2-dimethyl benzene	45
1-methylpropyl benzene	41
1-methyl-2-(1-methylethyl) benzene	37
2-ethyl-1,3-dimethyl benzene	40
1-ethyl-2,3-dimethyl benzene	50
2,6-dimethyl undecane	63
2,3,7-trimethyl octane	78

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 195645.doc/als

Sample: Philip 195645 Severson Rad Area 6/3/00

Autosampler: 8

Dir. Page: 2.3

Misc: nation psi; 500ml; can 11412

5970MSD1

Method: 840015

File: C:\HPCHEM\104501

1414121.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limit ppbv	IS/Int. Recovery
1	Chlorobenzene-d5 (IS)		18.11	117.00	1356554	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	15709	ND	1.1	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.1	
4	1,2- Cl 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.1	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.1	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.1	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.1	
8	Chloroethane	75-00-3	0.00	84.00	0	ND	1.1	
9	Trichlorofluoromethane (11)	75-69-4	6.17	101.00	10595	ND	1.1	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.1	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.1	
12	Methylene Chloride	75-09-2	7.54	84.00	10854	ND	1.1	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.1	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.1	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.1	
16	Bromochloromethane (SS)		9.78	130.00	322128	45.5		91%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.1	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.1	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.1	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.1	
21	Benzene	71-43-2	11.28	78.00	83812	1.4	1.1	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1457710	42.9		86%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.1	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.1	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.1	
26	Toluene	108-88-3	14.22	91.00	328143	4.2	1.1	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.1	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.1	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.1	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.1	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.1	
32	Ethyl benzene	100-41-4	16.71	91.00	69689	ND	1.1	
33	m,p-Xylene	1330-20-7	16.93	91.00	181620	ND	1.1	
34	o-Xylene	95-47-8	17.46	91.00	55850	ND	1.1	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.1	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.1	
37	Bromofluorobenzene (SS)		18.01	95.00	703510	47.6		95%
38	1,3,5-Trimethylbenzene	108-67-8	19.32	105.00	21773	ND	1.1	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	42684	ND	1.1	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.1	
41	Benzyl chloride	100-44-7	20.50	91.00	54100	1.4	1.1	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.1	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.1	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.1	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.1	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

815_10N.D

815_20F.D

615_30F.D

Date Printed:

8/10/00 9:54 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col: SPB-1 Fused Silica; Nutech: -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Sample: Philip H 5545 Severson Upwind 6/2/00

Autosampler: 7

Dil. Factor: 2.0

Vial: 100005000, 500ml; can 93242

5970M00

Method: 61001S

File: C:\HPCHEM\1154001

1414122.D

Reporting

Compd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limit ppbv	IS/Std Recovery
1	Chlorobenzene-d5 (IS)		10.09	117.00	1351478	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-5	2.20	85.00	14291	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2-Di-1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	82.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2-Di-1,2,2-F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	7.50	64.00	15074	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl-1-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.76	130.00	323307	45.8		92%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.25	78.00	74322	1.3	1.3	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1465355	43.0		86%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.22	91.00	196801	2.9	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	108-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.71	91.00	38477	ND	1.3	
33	m,p-Xylene	1330-20-7	16.91	91.00	87588	ND	1.3	
34	o-Xylene	95-47-8	17.44	91.00	36381	ND	1.3	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.56	83.00	14188	ND	1.3	
37	Bromofluorobenzene (SS)		17.99	95.00	714011	48.4		97%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	244252	3.3	1.3	
39	1,2,4-Trimethylbenzene	95-83-8	19.84	105.00	45701	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	18.82	91.00	13157	ND	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	148.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L59238, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/10/00 9:53 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits.

SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SP8-1 Fused Silica; Nutech; -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

"Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets."



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Mark Nicklas
Severson Environmental Services, Inc.
2749 Lockport Road
P.O. Box 396
Niagara Falls NY 14304

Project: 195805
Received: 09-AUG-00
Reported: 17-AUG-00

Project Description: Olin Remediation: TO-15 & Lib. Search
Summas

<u>RESULT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>DATE</u>	<u>ANALYST</u>
---------------	--------------	---------------	-------------	----------------

12474 North Side Area A

Lab Sample: 1414842
sampled: 07-AUG-00 16:00

See Attached Report

Ethanol	9.0 ppbv
Acetone	7.0 ppbv
1,3-Pentadiene	9.0 ppbv
Carbon Disulfide	10.0 ppbv

809 North Side Area B

Lab Sample: 1414843
sampled: 07-AUG-00 16:00

See Attached Report

Ethanol	9.0 ppbv
Carbon Disulfide	10.0 ppbv
Octane	7.0 ppbv
1-Methyl-4	
1-methylethyl) Benzene	7.0 ppbv
3-Carene	8.0 ppbv



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

Client: Severson Environmental Services, Inc.
Project: 195805

<u>RESULT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>DATE</u>	<u>ANALYST</u>
---------------	--------------	---------------	-------------	----------------

93294 Pad Area

Lab Sample: 1414844

sampled: 07-AUG-00 16:00

See Attached Report

Ethanol	7.0 ppbv
Acetone	9.0 ppbv

12630 Upwind

Lab Sample: 1414845

sampled: 07-AUG-00 16:00

See Attached Report

Alpha-methystyene	20.0 ppbv
-------------------	-----------

12656 North Side Area A

Lab Sample: 1414846

sampled: 08-AUG-00 17:30

See Attached Report

2,4-dimethyl-	
3-pentanone	8.0 ppbv
3-Heptanone	11.0 ppbv
Butanoic Acid	
propyl ester	15.0 ppbv
Pentanoic Acid	
propyl ester	8.0 ppbv
Butanoic acid	
butyl ester	17.0 ppbv
Hexanoic acid	
ethyl ester	38.0 ppbv
Hexanoic acid	
propyl ester	11.0 ppbv
Camphor	19.0 ppbv

9304 North Side Area B

Lab Sample: 1414847

sampled: 08-AUG-00 17:30

See Attached Report

Acetone	24.0 ppbv
Nitromethane	7.0 ppbv



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

- EPA/NVLAP 101262-0
- AIHA ACCREDITATION NO. 100439

- NY DOH 10903
- PA DER 06-353

- NJ DEP 77678

Client: Severson Environmental Services, Inc.
Project: 195805

<u>RESULT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>DATE</u>	<u>ANALYST</u>
---------------	--------------	---------------	-------------	----------------

9102B Pad Area

Lab Sample: 1414848

sampled: 08-AUG-00 17:30

See Attached Report

Ethanol	9.0 ppbv
s-dichloroethyl ether	7.0 ppbv
Methyl Isobutyl Ketone	8.0 ppbv
Butanoic acid	
(ethyl ester)	59.0 ppbv
Butanoic acid	
(propyl ester)	70.0 ppbv
Pentanoic acid	
(ethyl ester)	27.0 ppbv
Butanoic acid	
(1-methylethyl ester)	38.0 ppbv
Butanoic acid	
(1-methylpropyl ester)	7.0 ppbv
2,6-Dimethyl-4-heptanone	
	10.0 ppbv
Butanoic acid butyl ester	
	55.0 ppbv
Hexanoic acid ethyl ester	
	30.0 ppbv
Nonanal	10.0 ppbv

PHILIP

ANALYTICAL SERVICES

INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

Client: Severson Environmental Services, Inc.
Project: 195805

<u>RESULT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>DATE</u>	<u>ANALYST</u>
---------------	--------------	---------------	-------------	----------------

9334B Upwind

Lab Sample: 1414849

sampled: 08-AUG-00 17:30

See Attached Report

Acetone	132.0 ppbv	Camphor	45.0 ppbv
Methyl Isobutyl Ketone	46.0 ppbv		
2,4-dimethyl-3-pentanone	43.0 ppbv		
Butanoic acid			
butyl ester	344.0 ppbv		
Acetic acid			
butyl ester	43.0 ppbv		
Butanoic acid			
propyl ester	296.0 ppbv		
Pentanoic acid			
ethyl ester	167.0 ppbv		
Pentanoic acid			
butyl ester	39.0 ppbv		
Butanoic acid			
2-methylpropyl ester	112.0 ppbv		
Propanoic acid	52.0 ppbv		
Butanoic acid	218.0 ppbv		
Pentanoic acid	71.0 ppbv		
Hexanoic acid	321.0 ppbv		

< Indicates less than the limit of quantitation.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip/Sevenson North Side "A" 8/7/00

Autosampler: 4

Dil. Fact: 2.6

Misc: nafion off; 500ml; can 12474

1414842

5970MSD1

Method: 8400IS

File: C:\HPCHEM\1\8400\

19800_1.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1194722	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	10868	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.76	130.00	278072	44.6		89%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.09	78.00	16801	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1288950	42.8		86%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.26	91.00	70551	ND	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.70	91.00	13381	ND	1.3	
33	m,p-Xylene	1330-20-7	16.93	91.00	31448	ND	1.3	
34	o-Xylene	95-47-6	17.44	91.00	12349	ND	1.3	
35	Styrene	100-42-5	17.35	104.00	19670	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.99	95.00	608124	46.7		93%
38	1,3,5-Trimethylbenzene	108-67-8	19.13	105.00	14997	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	13343	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	20.48	91.00	63084	2.1	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/10/00 10:31 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits.

SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; Nutech: -5C Tenax/Anosorb Trap; Oven: -50 for 2m to 150 @ 8/m

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip/Sevenson North Side "B" 8/7/00

Autosampler: 5

Dil. Fact: 2.5

Misc: nafion off; 500ml; can 809

1414843

5970MSD1

Method: 8400IS

File: C:\HPCHEM\118400\

19800_2.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1291628	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	14852	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	7.48	84.00	31763	1.7	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.76	130.00	334257	49.6		99%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.25	78.00	74381	1.3	1.3	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1404590	43.1		86%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.22	91.00	253851	3.7	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.71	91.00	49105	ND	1.3	
33	m,p-Xylene	1330-20-7	16.91	91.00	135476	ND	1.3	
34	o-Xylene	95-47-6	17.44	91.00	53332	ND	1.3	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.08	83.00	12962	ND	1.3	
37	Bromofluorobenzene (SS)		17.99	95.00	659132	46.8		94%
38	1,3,5-Trimethylbenzene	108-67-8	19.14	105.00	27465	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	19.84	105.00	24790	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	20.49	91.00	135887	4.0	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/10/00 10:30 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; Nutech: -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip/Sevenson Pad Area 8/7/00

Autosampler: 6

Dil. Fact: 2.4

Misc: nalon off; 500ml; can 93294

1414844

5970MSD1

Method: 8400IS

File: C:\HPCHEM\1\8400\

19800_3.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1368991	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	15676	ND	1.2	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.2	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.2	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.2	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.2	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.2	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.2	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.2	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.2	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.2	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.2	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.2	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.2	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.2	
16	Bromochloromethane (SS)		9.76	130.00	337558	47.3		95%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.2	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.2	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.2	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.2	
21	Benzene	71-43-2	11.13	78.00	12688	ND	1.2	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1530465	44.3		89%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.2	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.2	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.2	
26	Toluene	108-88-3	14.24	91.00	78279	ND	1.2	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.2	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.2	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.2	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.2	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.2	
32	Ethyl benzene	100-41-4	16.72	91.00	13194	ND	1.2	
33	m,p-Xylene	1330-20-7	16.93	91.00	28000	ND	1.2	
34	o-Xylene	95-47-6	17.46	91.00	11690	ND	1.2	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.2	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.2	
37	Bromofluorobenzene (SS)		17.99	95.00	678960	45.5		91%
38	1,3,5-Trimethylbenzene	108-67-8	19.13	105.00	11711	ND	1.2	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	12782	ND	1.2	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.2	
41	Benzyl chloride	100-44-7	20.48	91.00	55112	1.5	1.2	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.2	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.2	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.2	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.2	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/10/00 10:30 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits.

SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; Nutech: -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip/Sevenson Upwind 8/7/00

Autosampler: Z

Dil. Fact: 2.6

Misc: nalion off; 500ml; can 12630

1414845

5970MSD1

Method: 8400IS

File: C:\VPCHEM\1\8400\

19800_4.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1328130	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	13796	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.76	130.00	338201	48.8		98%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.13	78.00	11889	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1488512	44.4		89%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.26	91.00	57764	ND	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.92	91.00	20741	ND	1.3	
33	m,p-Xylene	1330-20-7	16.92	91.00	20741	ND	1.3	
34	o-Xylene	95-47-6	0.00	91.00	0	ND	1.3	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.98	95.00	668272	46.1		92%
38	1,3,5-Trimethylbenzene	108-67-8	19.13	105.00	10295	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	0.00	105.00	0	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	19.51	91.00	33449	ND	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/10/00 10:29 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits.

SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; Nutech: -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip/Sevenson North Side "A" 8/8/00

Autosampler: 8

Dil. Fact: 2.6

Misc: nafion off; 500ml; can 12256

1414846

5970MSD1

Method: 8400IS

File: C:\HPCHEM\1\8400\

19800_5.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.11	117.00	1414188	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	15793	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.76	130.00	361438	49.0		98%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.26	78.00	34912	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1376499	38.6		77%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.26	91.00	58675	ND	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.72	91.00	41571	ND	1.3	
33	m,p-Xylene	1330-20-7	16.93	91.00	58219	ND	1.3	
34	o-Xylene	95-47-6	17.46	91.00	24865	ND	1.3	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.99	95.00	720508	46.7		93%
38	1,3,5-Trimethylbenzene	108-67-8	19.13	105.00	21715	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	27701	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	20.50	91.00	39842	ND	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/10/00 10:28 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica: Nutech: -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip/Sevenson North Side "B" 8/8/00

Autosampler: 9

Dil. Fact: 2.6

Misc: nalion off; 500ml; can A304

1414847

5970MSD1

Method: 8400IS

File: C:\HPCHEM\1\8400\

19800_6.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1347037	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	13405	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.76	130.00	333380	47.4		95%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.26	78.00	35193	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1509151	44.4		89%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.26	91.00	40218	ND	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.93	91.00	16621	ND	1.3	
33	m,p-Xylene	1330-20-7	16.93	91.00	16621	ND	1.3	
34	o-Xylene	95-47-6	0.00	91.00	0	ND	1.3	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.99	95.00	682807	46.5		93%
38	1,3,5-Trimethylbenzene	108-67-8	0.00	105.00	0	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	0.00	105.00	0	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	20.48	91.00	35089	ND	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data:

NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/10/00 10:20 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; Nutech: -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip/Sevenson Pad Area 8/8/00

Autosampler: 10

Dil. Fact: 1.8

Misc: nafion off; 500ml; can 9102B

1414848

5970MSD1

Method: 8400IS

File: C:\HPCHEM\118400\

19800_7.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1405713	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	20706	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	6.17	101.00	10275	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	9.01	73.00	10402	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
18	Bromochloromethane (SS)		9.76	130.00	359818	49.1		98%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.25	78.00	39642	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1446791	40.8		82%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.23	91.00	98539	1.0	0.9	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.69	91.00	39755	ND	0.9	
33	m,p-Xylene	1330-20-7	16.90	91.00	74422	ND	0.9	
34	o-Xylene	95-47-6	17.44	91.00	28203	ND	0.9	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.9	
37	Bromofluorobenzene (SS)		17.97	95.00	718693	46.9		94%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	10007	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.84	105.00	27969	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.9	
41	Benzyl chloride	100-44-7	20.47	91.00	38979	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-88-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/10/00 10:19 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica: Nutech: -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip/Sevenson Upwind 8/8/00

Autosampler: 11

Dil. Fact: 1.8

Misc: nafion off; 500ml; can 9334B

1414849

5970MSD1

Method: 8400IS

File: C:\HPCHEM\1\8400\

19800_8.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1382381	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	19617	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	3.41	54.00	10288	2.4	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	9.32	73.00	159493	7.3	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.76	130.00	341361	47.3		95%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.25	78.00	43072	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1483218	42.5		85%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	12.96	75.00	153503	2.7	0.9	
26	Toluene	108-88-3	14.19	91.00	380187	3.7	0.9	
27	trans-1,3-dichloropropene	10061-02-6	14.24	75.00	19963	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	16.14	112.00	16743	ND	0.9	
32	Ethyl benzene	100-41-4	16.66	91.00	443799	3.1	0.9	
33	m,p-Xylene	1330-20-7	16.88	91.00	599132	2.8	0.9	
34	o-Xylene	95-47-6	17.41	91.00	204574	1.8	0.9	
35	Styrene	100-42-5	17.33	104.00	45427	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.72	83.00	45263	ND	0.9	
37	Bromofluorobenzene (SS)		18.00	95.00	737981	49.0		98%
38	1,3,5-Trimethylbenzene	108-67-8	19.28	105.00	71294	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.83	105.00	208079	1.8	0.9	
40	1,3-Dichlorobenzene	541-73-1	20.04	146.00	28454	ND	0.9	
41	Benzyl chloride	100-44-7	19.90	91.00	10679	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	20.04	146.00	28454	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/10/00 10:14 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; Nutech: -5C Tenax/Anasorb Trap; Oven: -50 for 2m to 150 @ 8/m

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 195645

Sample Date: 8/7/2000

Matrix: Air in Summa Canister

Analysis Date: 8/9/2000

Date Received: 8/9/2000

Sample ID: 1414842 canister 12474 "North Side Area A 8/7/2000"

Compound Estimated ppbv*

Ethanol	9
acetone	7
1,3-pentadiene	9
carbon disulfide	10

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1414843 canister 809 "North Side Area B 8/7/2000"

Compound Estimated ppbv*

Ethanol	9
carbon disulfide	10
Octane	7
1-methyl-4-(1-methylethyl) benzene	7
3-carene	8

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 195805.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 195805
Sample Date: 8/7/2000 Matrix: Air in Summa Canister
Analysis Date: 8/9/2000 Date Received: 8/9/2000

Sample ID: 1414844 canister 93294 "Pad Area 8/7/2000"
Compound Estimated ppbv*

Ethanol	7
acetone	9

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1414845 canister 12630 "Upwind 8/7/2000"
Compound Estimated ppbv*

alpha-methylstyrene	20
---------------------	----

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1414846 canister 12630 "Side A 8/8/2000"
Compound Estimated ppbv*

2,4-dimethyl-3-pentanone	8
3-heptanone	11
Butanoic acid, propyl ester	15
Pentanoic acid, propyl ester	8
Butanoic acid, butyl ester	17
Hexanoic acid, ethyl ester	38
Hexanoic acid, propyl ester	11
Camphor	19

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 195805.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120

Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 195805
Sample Date: 8/8/2000 Matrix: Air in Summa Canister
Analysis Date: 8/9/2000 Date Received: 8/9/2000

Sample ID: 1414847 canister A304 "North Side Area B 8/8/2000"

Compound Estimated ppbv*

Acetone	24
Nitromethane	7

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1414848 canister 9102B "Pad Area 8/8/2000"

Compound Estimated ppbv*

Ethanol	9
s-Dichloroethyl ether	7
Methyl Isobutyl Ketone	8
Butanoic acid, ethyl ester	59
Butanoic acid, propyl ester	70
Pentanoic acid, ethyl ester	27
Butanoic acid, 1-methylhexyl ester	38
Butanoic acid, 1-methylpropyl ester	7
2,6-dimethyl-4-heptanone	10
Butanoic acid, butyl ester	55
Hexanoic acid, ethyl ester	30
Nonanal	10

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

TO-14A/TO-15 GC/MS Volatiles Report

Sample: Philip/Sevenson North Side "B" 8/9/00

Autosampler: 4

Dil. Fact: 1.0

Misc: nation off; 500ml; can 23017

INCHMSD1

Method: E3001S

File: C:\VPCHEM\113-100\

1415206.D

Reporting

Limits

IS/Surr.

Recovery

Compd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	ppbv	
1	Chlorobenzene-d5 (IS)		13.09	117.00	1053337	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	15597	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2- F ethane (114)	78-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-8	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-89-4	0.00	101.00	0	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.9	
13	1,3-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.76	130.00	272181	49.5		99%
17	Chloroform	67-68-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	58-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.25	78.00	23824	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1305854	49.1		98%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-8	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.24	91.00	94134	1.2	0.9	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	13.62	97.00	26728	0.9	0.9	
29	Tetrachloroethene	127-18-4	15.39	164.00	15408	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.70	91.00	25138	ND	0.9	
33	m,p-Xylene	1330-20-7	16.91	91.00	58740	ND	0.9	
34	o-Xylene	95-47-6	17.44	91.00	27883	ND	0.9	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.9	
37	Bromodifluorobenzene (SS)		17.99	95.00	517295	45.0		90%
38	1,3,5-Trimethylbenzene	108-87-3	19.31	105.00	22171	ND	0.9	
39	1,2,4-Trimethylbenzene	95-83-6	19.84	105.00	48853	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.9	
41	Benzyl chloride	100-44-7	20.49	91.00	38840	1.0	0.9	
42	1,4-Dichlorobenzene	106-48-7	0.00	146.00	0	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-88-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L89236, 1ppmv

615_10N.D

615_2CF.D

615_3CF.D

Date Printed:

8/16/00 5:25 PM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

ColSPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 6/m; 35-300 amu full scan

Inject: -3C Tenax/Anasorb 747 Trap; desorb @ 180C, TO14/15_LC.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Sample: Philip/Sevenson North Side PAD B3003

Autoanalyzer: 5

Dil. Factor: 2.5

Misc: nation off: 500ml, can 12638

5970MS01

Method: 8400IS

File: C:\HPCHEM\118400\

1415207.D

Reporting

Cmpd #	Compound	CAS #	RT	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		18.09	117.00	1033904	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	10825	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-8	0.00	52.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-89-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	81.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		8.78	130.00	261750	47.1		94%
17	Chloroform	87-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-08-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.28	78.00	13867	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1215195	45.3		91%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-37-5	0.00	83.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.24	91.00	54568	ND	1.3	
27	trans-1,3-dichloropropene	10061-02-8	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	184.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.70	91.00	13370	ND	1.3	
33	m,p-Xylene	1230-20-7	16.93	91.00	34106	ND	1.3	
34	o-Xylene	95-47-6	17.44	91.00	15591	ND	1.3	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.99	95.00	504878	43.5		87%
38	1,3,5-Trimethylbenzene	108-67-8	19.13	105.00	15798	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-8	19.85	105.00	23403	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	20.48	91.00	25852	ND	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L89238, 1ppmv

815_10N.D

815_20F.D

815_30F.D

Date Printed:

8/18/00 8:23 PM

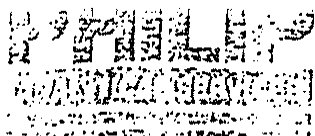
Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard, IS = Internal Standard 50 ng each

Cot:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutec: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_1c

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.



ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Mark Nicklas
Severson Environmental Services, Inc.
2749 Lockport Road
P.O. Box 396
Niagara Falls NY 14304

Project: 195891
Received: 14-AUG-00
Reported: 21-AUG-00

Project Description: Olin Remediation: TO-15 & Library Search
Sampled 8/9/00

Sampled: 09-AUG-00 17:30

<u>RESULT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>DATE</u>	<u>ANALYST</u>
---------------	--------------	---------------	-------------	----------------

11291 North Side Area A

Lab Sample: 1415205

SEE ATTACHED REPORT.

93017 North Side Area B

Lab Sample: 1415206

SEE ATTACHED REPORT.

12638 North of Pad

Lab Sample: 1415207

SEE ATTACHED REPORT.

0164 Upwind

Lab Sample: 1415208

SEE ATTACHED REPORT.

< Indicates less than the limit of quantitation.

Sample: Philip/Sevenson North Side "A" 8/9/00

Autosampler: 3

Dil. Fact: 1.0

Misc: nation off; 500ml; can 11201

59704501

Method: 840015

File: C:\VPCHEM\118401A 1-15205.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		18.09	117.00	1021638	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	17944	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2-Cl-1,1,2,2-F ethane (114)	78-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-59-4	8.15	101.00	10297	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2-Cl-1,2,2-F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	83.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	9.69	61.00	12139	ND	0.9	
16	Bromochloromethane (SS)		9.74	130.00	288704	54.2		108%
17	Chloroform	67-66-3	10.08	83.00	10138	ND	0.9	
18	1,1,1-Trichloroethane	71-55-8	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	82.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.25	78.00	29383	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1138527	44.2		88%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	83.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.22	91.00	126021	1.7	0.9	
27	trans-1,3-dichloropropene	10081-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	13.83	97.00	31973	1.1	0.9	
29	Tetrachloroethene	127-18-4	15.37	184.00	153798	7.4	0.9	
30	1,2-Dibromomethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.69	91.00	47293	ND	0.9	
33	m,p-Xylene	1330-20-7	18.91	91.00	95638	ND	0.9	
34	o-Xylene	95-47-8	17.44	91.00	44088	ND	0.9	
35	Styrene	100-42-5	17.34	104.00	18884	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.54	83.00	17379	ND	0.9	
37	Bromofluorobenzene (SS)		17.99	95.00	504588	45.3		91%
38	1,3,5-Trimethylbenzene	108-67-3	19.28	105.00	29944	ND	0.9	
39	1,2,4-Trimethylbenzene	95-83-8	19.84	105.00	57059	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	19.92	148.00	23830	ND	0.9	
41	Benzyl chloride	100-44-7	19.98	91.00	26894	ND	0.9	
42	1,4-Dichlorobenzene	106-48-7	20.02	148.00	31836	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	20.52	148.00	25354	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	23.50	180.00	33874	1.9	0.9	
45	Hexachlorobutadiene	87-88-3	24.54	225.00	35685	2.2	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L89236, 1ppmv

815_10N.D

815_20F.D

815_30F.D

Date Printed:

8/16/00 5:24 PM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica, 30m x 0.25mm, 0.25µ film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_1c

Note that 1,3-butadiene and MTBE are TC-15 compounds only and not TO-14 targets.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120

Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 195805

Sample Date: 8/8/2000

Matrix: Air in Summa Canister

Analysis Date: 8/9/2000

Date Received: 8/9/2000

Sample ID: 1414849 canister 9334B "Upwind 8/8/2000"

Compound Estimated ppbv*

Acetone	132
Methyl Isobutyl Ketone	46
2,4-dimethyl-3-pentanone	43
Butanoic acid, ethyl ester	344
Acetic acid, butyl ester	43
Butanoic acid, propyl ester	296
Pentanoic acid, ethyl ester	167
Pentanoic acid, butyl ester	39
Butanoic acid, 2-methylpropyl ester	112
Propanoic acid, 2-methyl-, butyl ester	52
Butanoic acid, butyl ester	218
Pentanoic acid, propyl ester	71
Hexanoic acid, ethyl ester	321
Camphor	45

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 195805.doc/als

Research Triangle Park Laboratories, Inc
 8100 Brownleigh Drive, Suite 120
 Raleigh, North Carolina 27617 (new zipcode)
 Phone: 919-510-0228 Fax: 919-510-0141
 Web Site: www.rtp-labs.com

Chain of Custody Record

ISO 17025 Compliant for Testing Labs



TOTAL P. 82

195805

Client SEVENSON ENVIRONMENTAL		Project Manager BILL M.		Phone Number 610-453-7670	Fax Number 978-658-8766	Date: 8/8/00
Address C/O OLIN @ SI EAMES ST.				Requested Analyses		Page <u>1</u> of <u>1</u>
City WILMINGTON		State MASS.		Zip Code 01887		RTP Labs Proj. Tracking No.:
Contract/Purchase Order No.:		Project Name: OLIN REMEDIATION		<div style="display: flex; justify-content: space-between;"> <div> Preservatives # of Containers <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> TL-15 LIBRARY SEARCH </div> </div> <div> Comments </div> <div> Fraction </div> </div>		
Sample ID No. and Description		Date	Time				Matrix Air, Liq, Solid
12474 NORTH SIDE AREA A	8-7	1600	AIR	ONE		
809 NORTH SIDE AREA B	↓	1600				
13294 PAD AREA	↓	1600				
12630 UPWIND	8-7	1600				
12256 NORTH SIDE AREA A	8-8	1730				
1304 NORTH SIDE AREA B	↓	1730				
9102 B PAD AREA	↓	1730				
9334 B UPWIND	8-8	1730	AIR	NEW		

Turn Around Time Requested for Report: Business Days: *Rush Multipliers (Xs) <input type="checkbox"/> 1 day (4x) <input type="checkbox"/> 2 days (3x) <input type="checkbox"/> 3 days (2x) <input type="checkbox"/> 5 days (1.5x) <input type="checkbox"/> 10 days (1.1x) <input type="checkbox"/> 15 days				Data Pack: Std <input type="checkbox"/> Full <input type="checkbox"/> (1.1x surchar) Electronic Deliverable: <input type="checkbox"/> (1.1x surchar)		Possible Hazards/ Known Concentrations:
Relinquished By: David C. Perry Date: 8/8/00 Time: 1800				Received By: SHIPPING LAC Date: 8/8/00 Time: 1800		
Repackaged By: EXPRESS Date: 8/8/00 Time: 1800				Received By: J. G. Date: 8-9-00 Time: 09:30		

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip/Sevenson Upwind 8/9/00

Autosampler: 5

Dil. Fact: 2.0

Misc: nalon off; 500ip; can 0104

5970ASD1

Method: B-1001S

File: C:\HPCHEM\113-100\

1415208.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limit ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		18.09	117.00	947440	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	10045	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethane	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2-F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	81.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.76	130.00	255182	51.6		103%
17	Chloroform	67-68-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-8	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	58-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.26	78.00	14420	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1110487	46.4		93%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	83.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.24	91.00	63508	1.3	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethane	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.70	91.00	13893	ND	1.3	
33	m,p-Xylene	1330-20-7	16.93	91.00	35819	ND	1.3	
34	o-Xylene	95-47-8	17.48	91.00	15717	ND	1.3	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.3	
36	1,1,2,2-Tetrachloroethane	78-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.99	95.00	434581	42.1		84%
38	1,3,5-Trimethylbenzene	108-67-3	19.13	105.00	15193	ND	1.3	
39	1,2,4-Trimethylbenzene	95-83-8	19.85	105.00	18655	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	148.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	20.48	91.00	42637	1.3	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L59236, 1ppmv

615_1CN.D

615_20F.D

615_30F.D

Date Printed:

8/17/00 9:31 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

CotSPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 3/min; 35-300 amu full scan

Nutec: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_to.

"Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets."

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 195891
Sample Date: 8/9/2000 Matrix: Air in Summa Canister
Analysis Date: 8/16/2000 Date Received: 8/14/2000

Sample ID: 1415205 canister 11291 "North Side Area A 8/9/2000 1730 hrs"
Compound Estimated ppbv*

acetone	8
pentane	5
carbon disulfide	13
2,4,4-trimethyl-1-pentene	18
dimethyl disulfide	7
2-ethyl hexanal	5
camphene	18
1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	20
1-methyl-3-(1-methylethyl) benzene	34

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1415206 canister 95017 "North Side Area B 8/9/2000 1730 hrs"
Compound Estimated ppbv*

acetone	6
carbon disulfide	11
2,4,4-trimethyl-1-pentene	12
2-ethyl hexanal	8
1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	8
1-methyl-3-(1-methylethyl) benzene	11

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File 195805.doc/als

919 310-0228 Telephone

919 310-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS

NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 195891
Sample Date: 8/9/2000 Matrix: Air in Summa Canister
Analysis Date: 8/16/2000 Date Received: 8/14/2000

Sample ID: 1415207 canister 12638 "North Side Pad 8/9/2000 1730 hrs"
Compound Estimated ppbv*

Carbon disulfide	9
Butanal	24
Formic acid, butyl ester	24
1-Hexanol	7
1-methyl-4-1-methylethyl) 1,3-cyclohexadiene	10

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1415208 canister 0164 "Upwind 8/9/2000 1730 hrs"
Compound Estimated ppbv*

Acetic acid, methyl ester	13
Butanal	8
Formic acid, butyl ester	8
Hexanal	21
1-Hexanol	13
1-methyl-4-1-methylethyl) 1,3-cyclohexadiene	13

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 195891.doc/sls

Research Triangle Park Laboratories, Inc
 8100 Brownlough Drive, Suite 120
 Raleigh, North Carolina 27617 (new zipcode)
 Phone: 919-510-0228 Fax: 919-510-0141
 Web Site: www.rtp-labs.com

Chain of Custody Record

ISO 17025 Compliant for Testing Labs



Client: Sevenson		Project Manager: Bill M.		Phone Number: 610-453-9678		Fax Number: 978-658-8766		Date: 8/11/00	
Address: c/o Olin @ 51 Games St.				Requested Analyses					
City: Wilmington		State: MA		Zip Code: 01887		Page 1 of 1			
Contract/Purchase Order No.: 7110		Project Name: Olin Remediation							
RTP Labs Proj. Tracking No.: 199-00		#195891							
Sample ID No. and Description		Date	Time	Matrix Air, Liq, Solid	Preservatives	# of Containers	TL-15 LIBRARY SEARCH	Comments	
11291 North side Area A		8/9/00	1730	AIR		1		1415205	
93017 North side Area B		8/9/00	↓	↓		1		1415206	
12638 North of pad		8/9/00	↓	↓		1		1415207	
0164 upwind		8/9/00	1730			1		1415208	
12618 North side Area A		8/10/00	1530			1		no analysis,	
12467 North side Area B		↓	↓	↓		1		just cleaning	
93081 North of pad		↓	↓	↓		1		↓	
A301 upwind		8/10/00	1530	AIR		1			
Turn Around Time Requested for Report: Business Days; *Rush Multipliers (Xs) <input type="checkbox"/> 1 day (4x) <input type="checkbox"/> 2 days (3x) <input type="checkbox"/> 3 days (2x) <input type="checkbox"/> 5 days (1.5x) <input type="checkbox"/> 10 days (1.1x) <input type="checkbox"/> 15 days									
Data Pack: Std <input type="checkbox"/> Full <input type="checkbox"/> (1.1x surchar) Electronic Deliverable: <input type="checkbox"/> (1.1x surchar)						Possible Hazards/ Known Concentrations:			
Relinquished By: Andrew Light		Date: 8/11/00		Time: 10:00		Received By: Shipping Lab time		Date: 8-14-00	
Relinquished By: VIA FGD EXPRESS AIRBILL #		Date: 8/11/00		Time: 10:00		Received By: Andrew English		Date: 8-14-00	

PHILIP**ANALYTICAL SERVICES****INDUSTRIAL HYGIENE****ENVIRONMENTAL TESTING**

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

Client: Severson Environmental Services, Inc.
Project: 196137

<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
---------------	--------------	----------------------	--------------	---------------

A305 Northside Area B

Lab Sample: 1416508

sampled: 17-AUG-00 15:00

See Attached Report

12832 Northside Soil Pad

Lab Sample: 1416509

sampled: 17-AUG-00 15:00

See Attached Report

93214 Gate to Biopad (Downwind)

Lab Sample: 1416510

sampled: 17-AUG-00 15:00

See Attached Report

Final sample concentrations calculated from sample areas supplied on chain of custody.
< Indicates less than the limit of quantitation.



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.

Project: 196137

Report to: Mark Nicklas
Severson Environmental Services, Inc.
2749 Lockport Road
P.O. Box 396
Niagara Falls NY 14304

Received: 21-AUG-00

Reported: 31-AUG-00

Project Description: Olin Remediation
TO-15 plus Library Search

<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
---------------	--------------	----------------------	--------------	---------------

93023 North Side Area A (Upwind)

Lab Sample: 1416503

sampled: 15-AUG-00 17:00

See Attached Report

9349B North Side Area B

Lab Sample: 1416504

sampled: 15-AUG-00 17:00

See Attached Report

11373 North Side Soil Pad

Lab Sample: 1416505

sampled: 15-AUG-00 17:00

See Attached Report

9624B Gate to biopad (Downwind)

Lab Sample: 1416506

sampled: 15-AUG-00 17:00

See Attached Report

12610 Northside Area A (Upwind)

Lab Sample: 1416507

sampled: 17-AUG-00 15:00

See Attached Report

Sample: Philip 198137 Severson 8/17/00 N.Side B

Autosampler: 8

Dil. Fact: 3.1

Misc: nation off; 500ml; can A305

5970MSD1

Method: 823001S

File: C:\HPCHEM\1\823001

1418508.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		18.09	117.00	816578	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.15	85.00	14926	ND	1.6	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.6	
4	1,2- Cl-1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.6	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.6	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.6	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.6	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.6	
9	Trichlorofluoromethane (11)	75-89-4	8.12	101.00	33089	3.4	1.6	
10	1,1-Dichloroethene	75-35-4	6.48	61.00	14439	ND	1.6	
11	1,1,2- Cl1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.6	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.6	
13	1,1-dichloroethane	75-34-3	0.00	83.00	0	ND	1.6	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.6	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.6	
16	Bromochloromethane (SS)		9.78	130.00	176261	54.8		110%
17	Chloroform	67-68-3	0.00	83.00	0	ND	1.6	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.6	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.6	
20	Carbon tetrachloride	56-23-6	0.00	117.00	0	ND	1.6	
21	Benzene	71-43-2	11.25	78.00	28309	ND	1.6	
22	1,4-Difluorobenzene (SS)		11.81	114.00	825265	53.0		106%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.6	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.6	
25	cis-1,3-dichloropropene	542-75-8	0.00	75.00	0	ND	1.6	
26	Toluene	108-88-3	14.21	91.00	229173	8.8	1.6	
27	trans-1,3-dichloropropene	10061-02-8	0.00	75.00	0	ND	1.6	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.6	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.6	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.6	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.6	
32	Ethyl benzene	100-41-4	16.69	91.00	20217	ND	1.6	
33	m,p-Xylene	1330-20-7	16.91	91.00	54789	ND	1.6	
34	o-Xylene	95-47-6	17.42	91.00	23296	ND	1.6	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.6	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.6	
37	Bromofluorobenzene (SS)		17.99	95.00	316332	47.0		94%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	18595	ND	1.6	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	29323	ND	1.6	
40	1,3-Dichlorobenzene	541-73-1	20.02	148.00	11724	ND	1.6	
41	Benzyl chloride	100-44-7	20.18	91.00	65709	5.1	1.6	
42	1,4-Dichlorobenzene	106-46-7	20.02	148.00	11724	ND	1.6	
43	1,2-Dichlorobenzene	95-50-1	0.00	148.00	0	ND	1.6	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.6	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.6	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L59236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/24/00 9:39 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits.

SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_id.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Sample: Philip 196137 Severson 8/17/00 N.Side A

Misc: nation off: 500ml; can 12610

Method: 823001S

File: C:\HPCHEM\11823001

1416507.D

5970MSD1

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		18.09	117.00	674732	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.17	85.00	18144	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	84.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	8.12	101.00	26608	1.4	0.9	
10	1,1-Dichloroethene	75-35-4	6.47	81.00	10119	ND	0.9	
11	1,1,2- Cl-1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.76	130.00	184820	52.5		105%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.25	78.00	26973	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.81	114.00	891799	52.4		105%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-8	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.21	91.00	179876	3.6	0.9	
27	trans-1,3-dichloropropene	10081-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.89	91.00	19596	ND	0.9	
33	m,p-Xylene	1330-20-7	16.91	91.00	52257	ND	0.9	
34	o-Xylene	95-47-8	17.42	91.00	21772	ND	0.9	
35	Styrene	100-42-5	17.34	104.00	10588	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.9	
37	Bromofluorobenzene (SS)		17.97	95.00	355071	48.3		97%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	20335	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	28317	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	20.02	146.00	11928	ND	0.9	
41	Benzyl chloride	100-44-7	20.18	91.00	59550	2.4	0.9	
42	1,4-Dichlorobenzene	106-46-7	20.02	146.00	11928	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/24/00 9:37 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica: 30m x 0.25mm, 0.25u film; direct interface; -80C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_id.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 106137 Severson 8/17/00 N.Side SoilPa

Autosampler: 9

Dil. Fact: 1.8

Misc: nation off; 500ml; can 12832

5970MSD1

Method: 82300IS

File: C:\HPCHEM\1\82300\

1416509.D

Reporting

Cmpd #	Compound	CAS#	R.T.	Qion	Area	ppbv	Limits		IS/Surr. Recovery
							ppbv	ppbv	
1	Chlorobenzene-d5 (IS)		18.07	117.00	822836	50.0			100%
2	Dichlorodifluoromethane (12)	75-71-8	2.15	85.00	19021	ND	0.9		
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9		
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9		
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9		
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9		
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9		
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9		
9	Trichlorofluoromethane (11)	75-69-4	8.10	101.00	59602	2.7	0.9		
10	1,1-Dichloroethene	75-35-4	6.44	81.00	23458	ND	0.9		
11	1,1,2- Cl-1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9		
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.9		
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9		
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9		
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9		
16	Bromochloromethane (SS)		9.74	130.00	237928	55.4			111%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9		
18	1,1,1-Trichloroethane	71-55-8	0.00	97.00	0	ND	0.9		
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9		
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9		
21	Benzene	71-43-2	11.16	78.00	903219	18.7	0.9		
22	1,4-Difluorobenzene (SS)		11.81	114.00	1064788	51.3			103%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9		
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9		
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9		
26	Toluene	108-88-3	14.18	91.00	2415042	41.2	0.9		
27	trans-1,3-dichloropropene	10061-02-6	14.16	75.00	20885	ND	0.9		
28	1,1,2-Trichloroethane	78-00-5	0.00	97.00	0	ND	0.9		
29	Tetrachloroethene	127-18-4	15.37	184.00	10934	ND	0.9		
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9		
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9		
32	Ethyl benzene	100-41-4	16.67	91.00	83478	1.0	0.9		
33	m,p-Xylene	1330-20-7	18.89	91.00	131875	1.1	0.9		
34	o-Xylene	95-47-6	17.43	91.00	99039	1.5	0.9		
35	Styrene	100-42-5	17.32	104.00	17378	ND	0.9		
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.9		
37	Bromofluorobenzene (SS)		17.97	95.00	413514	46.1			92%
38	1,3,5-Trimethylbenzene	108-87-8	19.27	105.00	28882	ND	0.9		
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	56176	ND	0.9		
40	1,3-Dichlorobenzene	541-73-1	20.01	146.00	19008	ND	0.9		
41	Benzyl chloride	100-44-7	20.18	91.00	134608	4.6	0.9		
42	1,4-Dichlorobenzene	106-48-7	20.01	146.00	19008	ND	0.9		
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9		
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9		
45	Hexachlorobutadiene	87-88-3	0.00	225.00	0	ND	0.9		

Calibration Data: NIST Traceable Standard Cylinder. Spectra Gases L69238, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/24/00 9:41 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15 Ici

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196137 Severson 8/17/00 Gate to BioPa

Autosampler: 10

Dil. Fact: 1.7

Misc: nation off: 500ml; can 93214

5670MSD1

Method: 82300IS

File: C:\HPCHEM\1\82300\

1416510.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	922377	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.11	85.00	22016	ND	0.8	
3	Chloromethane	74-87-3	0.00	62.00	0	ND	0.8	
4	1,2- Cl- 1,1,2,2-F ethane (114)	78-14-2	0.00	85.00	0	ND	0.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.8	
6	1,3-Butadiene	106-98-0	0.00	54.00	0	ND	0.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.8	
9	Trichlorofluoromethane (11)	75-69-4	6.08	101.00	64057	2.3	0.8	
10	1,1-Dichloroethene	75-35-4	8.42	61.00	30290	ND	0.8	
11	1,1,2- Cl-1,2,2- F ethane (113)	78-13-1	0.00	151.00	0	ND	0.8	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.8	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.8	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.8	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.8	
16	Bromochloromethane (SS)		9.74	130.00	259566	53.9		108%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.8	
18	1,1,1-Trichloroethane	71-55-8	0.00	97.00	0	ND	0.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.8	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.8	
21	Benzene	71-43-2	11.21	78.00	67319	1.1	0.8	
22	1,4-Difluorobenzene (SS)		11.80	114.00	1255800	54.0		108%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	0.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.8	
25	cis-1,3-dichloropropene	542-75-8	0.00	75.00	0	ND	0.8	
26	Toluene	108-88-3	14.19	91.00	416269	5.7	0.8	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.8	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.8	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.8	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.8	
32	Ethyl benzene	100-41-4	16.89	91.00	36827	ND	0.8	
33	m,p-Xylene	1330-20-7	16.89	91.00	99631	ND	0.8	
34	o-Xylene	95-47-8	17.42	91.00	38115	ND	0.8	
35	Styrene	100-42-5	17.32	104.00	17452	ND	0.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.8	
37	Bromofluorobenzene (SS)		17.97	95.00	456182	45.4		91%
38	1,3,5-Trimethylbenzene	108-87-8	19.27	105.00	27517	ND	0.8	
39	1,2,4-Trimethylbenzene	95-63-8	19.82	105.00	51669	ND	0.8	
40	1,3-Dichlorobenzene	541-73-1	20.01	146.00	19789	ND	0.8	
41	Benzyl chloride	100-44-7	20.18	91.00	165823	4.6	0.8	
42	1,4-Dichlorobenzene	106-46-7	20.01	146.00	19789	ND	0.8	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.8	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.8	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69238, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/24/00 9:43 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits.

SS = Surrogate Standard; IS = Internal Standard 50 ng each

CotSPB-1 Fused Silica; 30m x 0.25mm, 0.25µ film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Notes: -5C Tenax/Anasorb 747 Trap; desorb @ 150C; TO14/15_id.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196137 Severson 8/15/00 N.Side A

Autosampler: 3

Dil. Fact: 2.0

Misc: nation off; 500ml; can 93023

5970MSD1

Method: 823001S

File: C:\HPCHEM\1\823001\

1418503.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		18.07	117.00	835269	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.18	85.00	13304	ND	1.0	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.0	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.0	
5	Vinyl chloride	75-01-4	0.00	82.00	0	ND	1.0	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.0	
7	Bromomethane	74-83-8	0.00	94.00	0	ND	1.0	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.0	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.0	
10	1,1-Dichloroethene	75-35-4	0.00	81.00	0	ND	1.0	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.0	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.0	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.0	
14	Methyl t-butyl ether (MTBE)	1834-04-4	0.00	73.00	0	ND	1.0	
15	cis-1,2-Dichloroethene	156-58-2	0.00	61.00	0	ND	1.0	
16	Bromochloromethane (SS)		9.74	130.00	180857	54.6		109%
17	Chloroform	67-88-3	0.00	83.00	0	ND	1.0	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.0	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.0	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.0	
21	Benzene	71-43-2	11.23	78.00	15062	ND	1.0	
22	1,4-Difluorobenzene (SS)		11.81	114.00	951702	59.4		119%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.0	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.0	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.0	
26	Toluene	108-88-3	14.19	91.00	208828	5.0	1.0	
27	trans-1,3-dichloropropene	10081-02-6	0.00	75.00	0	ND	1.0	
28	1,1,2-Trichloroethane	79-00-5	14.36	97.00	12766	ND	1.0	
29	Tetrachloroethene	127-18-4	15.37	164.00	22613	1.9	1.0	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.0	
31	Chlorobenzene	108-90-7	16.18	112.00	53832	1.7	1.0	
32	Ethyl benzene	100-41-4	16.67	91.00	66020	1.1	1.0	
33	m,p-Xylene	1330-20-7	16.88	91.00	203634	2.3	1.0	
34	o-Xylene	95-47-6	17.41	91.00	39016	ND	1.0	
35	Styrene	100-42-5	17.32	104.00	17834	ND	1.0	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.53	83.00	75863	1.9	1.0	
37	Bromofluorobenzene (SS)		17.98	95.00	339007	48.9		98%
38	1,3,5-Trimethylbenzene	108-67-8	19.28	105.00	106091	2.3	1.0	
39	1,2,4-Trimethylbenzene	95-63-6	19.81	105.00	113610	2.4	1.0	
40	1,3-Dichlorobenzene	541-73-1	19.90	146.00	22659	ND	1.0	
41	Benzyl chloride	100-44-7	19.96	91.00	27677	1.3	1.0	
42	1,4-Dichlorobenzene	106-46-7	20.02	146.00	33432	1.4	1.0	
43	1,2-Dichlorobenzene	95-50-1	20.51	146.00	23038	1.0	1.0	
44	1,2,4-Trichlorobenzene	120-82-1	23.48	180.00	23113	2.3	1.0	
45	Hexachlorobutadiene	87-68-3	24.51	225.00	14323	1.6	1.0	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/23/00 5:28 PM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard. IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutec: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_tcl

"Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets."

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196137 Severson 8/15/00 N.Side B

Autosampler: 4

DIL. Fact: 2.2

Misc: nalion off. 500ml; can 8349B

6970MSD1

Method: 82300IS

File: C:\HPCHEM\1\82300\

1416504.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		18.07	117.00	687828	60.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	0.00	85.00	0	ND	1.1	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.1	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.1	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.1	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.1	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.1	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.1	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.1	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.1	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.1	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.1	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.1	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.1	
15	cis-1,2-Dichloroethene	156-58-2	0.00	61.00	0	ND	1.1	
16	Bromochloromethane (SS)		9.78	130.00	189482	52.8		106%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.1	
18	1,1,1-Trichloroethane	71-55-5	0.00	87.00	0	ND	1.1	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.1	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.1	
21	Benzene	71-43-2	11.25	78.00	15294	ND	1.1	
22	1,4-Difluorobenzene (SS)		11.81	114.00	779813	44.9		90%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	1.1	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.1	
25	cis-1,3-dichloropropene	542-75-8	0.00	75.00	0	ND	1.1	
26	Toluene	108-88-3	14.19	91.00	243977	5.8	1.1	
27	trans-1,3-dichloropropene	10081-02-6	0.00	75.00	0	ND	1.1	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.1	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.1	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.1	
31	Chlorobenzene	108-90-7	16.18	112.00	26799	ND	1.1	
32	Ethyl benzene	100-41-4	16.87	91.00	47536	ND	1.1	
33	m,p-Xylene	1330-20-7	16.90	91.00	123456	1.4	1.1	
34	o-Xylene	95-47-8	17.41	91.00	58282	1.2	1.1	
35	Styrene	100-42-5	17.32	104.00	14495	ND	1.1	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.53	83.00	36968	ND	1.1	
37	Bromofluorobenzene (SS)		17.97	85.00	359183	47.9		98%
38	1,3,5-Trimethylbenzene	108-87-8	19.28	105.00	47105	ND	1.1	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	59889	1.3	1.1	
40	1,3-Dichlorobenzene	541-73-1	19.91	146.00	13491	ND	1.1	
41	Benzyl chloride	100-44-7	19.98	91.00	17561	ND	1.1	
42	1,4-Dichlorobenzene	106-48-7	20.03	148.00	16103	ND	1.1	
43	1,2-Dichlorobenzene	95-50-1	20.51	148.00	14081	ND	1.1	
44	1,2,4-Trichlorobenzene	120-82-1	23.49	180.00	13437	1.3	1.1	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.1	

Calibration Data: MST Traceable Standard Cylinder: Spectra Gases LB9236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed: 8/23/00 5:29 PM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard: IS = Internal Standard 50 ng each

Cot SPB-1 Fused Silica: 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutatch: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15 Ici.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196137 Severson 8/15/00 N.Side Pad Autosampler: 5 DIL Fact: 2.8
 Misc: nation off: 500ml; can 11373 5970MSD1
 Method: 82300IS File: C:\HPCHEM\1\82300\ 1416505.D Reporting

Cmpd.#	Compound	CAS#	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		18.09	117.00	678548	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	0.00	85.00	0	ND	1.4	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.4	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.4	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.4	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.4	
7	Bromomethane	74-83-8	0.00	94.00	0	ND	1.4	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.4	
9	Trichlorofluoromethane (11)	75-68-4	0.00	101.00	0	ND	1.4	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.4	
11	1,1,2- Cl:1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.4	
12	Methylene Chloride	75-08-2	0.00	84.00	0	ND	1.4	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.4	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.4	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.4	
16	Bromochloromethane (SS)		9.78	130.00	198479	56.0		112%
17	Chloroform	87-66-3	0.00	83.00	0	ND	1.4	
18	1,1,1-Trichloroethane	71-55-8	0.00	97.00	0	ND	1.4	
19	1,2-Dichloroethane	107-06-2	0.00	82.00	0	ND	1.4	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.4	
21	Benzene	71-43-2	11.23	78.00	12867	ND	1.4	
22	1,4-Difluorobenzene (SS)		11.83	114.00	808586	47.2		84%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.4	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.4	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.4	
26	Toluene	108-88-3	14.23	91.00	71174	2.2	1.4	
27	trans-1,3-dichloropropene	10081-02-6	0.00	75.00	0	ND	1.4	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.4	
29	Tetrachloroethene	127-18-4	15.37	184.00	60004	6.7	1.4	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.4	
31	Chlorobenzene	108-90-7	16.19	112.00	12141	ND	1.4	
32	Ethyl benzene	100-41-4	16.69	91.00	25980	ND	1.4	
33	m,p-Xylene	1330-20-7	16.80	91.00	71610	ND	1.4	
34	o-Xylene	95-47-6	17.43	91.00	24502	ND	1.4	
35	Styrene	100-42-5	17.32	104.00	12297	ND	1.4	
36	1,1,2,2-Tetrachloroethane	78-34-5	17.55	83.00	30154	ND	1.4	
37	Bromofluorobenzene (SS)		17.98	95.00	353728	47.8		86%
38	1,3,5-Trimethylbenzene	108-87-8	19.29	105.00	27889	ND	1.4	
39	1,2,4-Trimethylbenzene	95-63-6	19.83	105.00	36081	ND	1.4	
40	1,3-Dichlorobenzene	541-73-1	20.03	148.00	11500	ND	1.4	
41	Benzyl chloride	100-44-7	19.98	91.00	17471	ND	1.4	
42	1,4-Dichlorobenzene	106-46-7	20.03	146.00	11500	ND	1.4	
43	1,2-Dichlorobenzene	95-50-1	0.00	148.00	0	ND	1.4	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.4	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.4	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L58236, 1ppmv

815_10N.D

815_20F.D

815_30F.D

Date Printed:

8/23/00 5:31 PM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Notes: -6C Tenax/Anasorb 747 Trap; desorb @ 180C: TO14/15.kl

--Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.--

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 198137 Severson 8/15/00 Gate BioPad

Autosampler: 6

Dil. Fact: 2.9

Misc: nation off; 500ml; can 96248

5970MSD1

Method: 82300IS

File: C:\HPCHEM\1\82300\

1416506.D

Reporting

Compd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limit ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.08	117.00	675958	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	0.00	85.00	0	ND	1.5	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.5	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.5	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.5	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.5	
7	Bromomethane	74-83-8	0.00	94.00	0	ND	1.5	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.5	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.5	
10	1,1-Dichloroethane	75-35-4	0.00	61.00	0	ND	1.5	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.5	
12	Methylene Chloride	75-08-2	0.00	84.00	0	ND	1.5	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.5	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.5	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.5	
16	Bromochloromethane (SS)		9.76	130.00	198377	58.2		112%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.5	
18	1,1,1-Trichloroethane	71-55-8	0.00	97.00	0	ND	1.5	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.5	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.5	
21	Benzene	71-43-2	11.24	78.00	18227	ND	1.5	
22	1,4-Difluorobenzene (SS)		11.81	114.00	882406	51.7		103%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.5	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.5	
25	cis-1,3-dichloropropene	542-75-8	0.00	75.00	0	ND	1.5	
26	Toluene	108-88-3	14.19	91.00	457219	15.1	1.5	
27	trans-1,3-dichloropropene	10061-02-8	0.00	75.00	0	ND	1.5	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.5	
29	Tetrachloroethene	127-18-4	0.00	184.00	0	ND	1.5	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.5	
31	Chlorobenzene	108-90-7	16.17	112.00	12200	ND	1.5	
32	Ethyl benzene	100-41-4	16.88	91.00	37640	ND	1.5	
33	m,p-Xylene	1330-20-7	16.91	91.00	69841	ND	1.5	
34	o-Xylene	95-47-8	17.42	91.00	30514	ND	1.5	
35	Styrene	100-42-5	17.33	104.00	15541	ND	1.5	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.54	83.00	19877	ND	1.5	
37	Bromofluorobenzene (SS)		17.97	95.00	350019	47.5		95%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	26009	ND	1.5	
39	1,2,4-Trimethylbenzene	95-63-8	19.82	105.00	49348	ND	1.5	
40	1,3-Dichlorobenzene	541-73-1	0.00	148.00	0	ND	1.5	
41	Benzyl chloride	100-44-7	19.97	91.00	20330	ND	1.5	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.5	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.5	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.5	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.5	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/23/00 8:12 PM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard: IS = Internal Standard 50 ng each

Col:SP6-1 Fused Silica; 30m x 0.25mm, 0.25µ film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Injector: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lcl

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196137
Sample Date: 8/15/2000 Matrix: Air in Summa Canister
Analysis Date: 8/23/2000 Date Received: 8/21/2000

Sample ID: 1416503 canister 93023 "North Side Area A (upwind) 8/15/2000"

Compound Estimated ppbv*

2,4-dimethyl pentane	53
3-methyl hexane	82
2,2,4-trimethyl pentane	424
Methyl cyclohexane	85
2,5-dimethyl heptane	63
2,4-dimethyl hexane	14
2,3,4-trimethyl pentane	257
2,3-dimethyl hexane	82
2-methyl heptane	40
3-methyl heptane	36
2,2,5-trimethyl hexane	206
1,1,3-trimethyl cyclohexane	72
1,2,4-trimethyl cyclohexane	40
2,2,5,5-tetramethyl hexane	144
2,3,7-trimethyl octane	57

*Estimated values were calculated against the *o*-Chlorobenzene internal standard assuming a 1:1 response ratio.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services

Contact: Jim Jacklin Project No: 196137

Sample Date: 8/15/2000

Matrix: Air in Summa Canister

Analysis Date: 8/23/2000

Date Received: 8/21/2000

Sample ID: 1416504 canister 9349B "North Side Area B 8/15/2000"
Compound Estimated ppbv*

2,4-dimethyl pentane	61
3-methyl hexane	40
2,2,4-trimethyl pentane	240
Methyl cyclohexane	49
Formic acid, butyl ester	21
2,5-dimethyl hexane	46
2,4-dimethyl hexane	18
2,3,4-trimethyl pentane	160
2,3-dimethyl hexane	42
1,4-dimethyl cyclohexane	24
3-methyl heptane	36
2,2,5-trimethyl hexane	104
1,1,3-trimethyl cyclohexane	29
1,1,2,3-tetramethyl cyclohexane	18
1-methyl-4-(1-methylethyl) benzene	37

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196137.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196137

Sample Date: 8/15/2000

Matrix: Air in Summa Canister

Analysis Date: 8/23/2000

Date Received: 8/21/2000

Sample ID: 1416505 canister 11373 "North Side Soil Pad 8/15/2000"

Compound Estimated ppbv*

Acetone	538
Nitromethane	262
2,2,4-trimethyl pentane	132
1-nitropropane	34
Methyl cyclohexane	33
2,3,4-trimethyl pentane	87
2,3,3-trimethyl pentane	82
2,2,5-trimethyl hexane	56
1,1,3-trimethyl cyclohexane	26
3-ethyl-2-methyl heptane	42
1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	24
Decahydro-2-methyl naphthalene	38

Sample ID: 1416506 canister 9624B "Gate to Pad (downwind) 8/15/2000"

Compound Estimated ppbv*

2-methyl butane	23
Acetone	25
2,3,4-trimethyl pentane	68
2,3,3-trimethyl pentane	43
2,2,5-trimethyl hexane	32
1,1,3-trimethyl cyclohexane	14
1,2,4-trimethyl cyclohexane	23
1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	30
2,4-dimethyl undecane	41
2-butyl-1,1,3-trimethyl cyclohexane	17
2,3,7-trimethyl octane	56
2,5-dimethyl dodecane	18

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

Research Triangle Park Laboratories, Inc.

8100 Brownaleigh Drive, Suite 120

Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services

Contact: Jim Jacklin

Project No: 196137

Sample Date: 8/17/2000

Matrix: Air in Summa Canister

Analysis Date: 8/23/2000

Date Received: 8/21/2000

Sample ID: 1416507 canister 12610 "North Side Area A (upwind) 8/17/2000"

Compound

Estimated ppbv*

3-ethylidene-1-methyl cyclopentene	80
2,2,3-trimethyl hexane	49
2,6,11-trimethyl dodecane	54
1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	610
1-methyl-3-(1-methylethyl) benzene	288
2,2,4,6,6-pentamethyl heptane	142
1-methyl-4-(1-methylethyl) 1,4-cyclohexadiene	240
2,2,4-trimethyl heptane	78
2,7,7-trimethyl decane	49

*Estimated values were calculated against the *d*-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196137.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196137
Sample Date: 8/17/2000 Matrix: Air in Summa Canister
Analysis Date: 8/23/2000 Date Received: 8/21/2000

Sample ID: 1416508 canister A305 "North Side Area B 8/17/2000"

Compound Estimated ppbv*

Trimethyl-1,3-cyclopentadiene	135
2,2,3-trimethyl hexane	101
2-methyl decane	112
1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	1319
1-methyl-4-(1-methylethyl) benzene	487
2,2,4,6,6-pentamethyl heptane	85
1-methyl-4-(1-methylethyl) cyclohexene	647
2,2-dimethyl octane	147

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196137
Sample Date: 8/17/2000 Matrix: Air in Summa Canister
Analysis Date: 8/23/2000 Date Received: 8/21/2000

Sample ID: 1416509 canister 12832 "North Side Soil Pad 8/17/2000"

Compound Estimated ppbv*

Dimethyl trisulfide	396
2-methyl decane	108
1-methyl-3-(1-methylethyl) benzene	740
Limonene	118
1-methyl-4-(1-methylethyl) 1,4-cyclohexadiene	417
2,2-dimethyl octane	155
4-ethyl-2,2,6,6-tetramethyl heptane	298
Dimethyl tetrasulphide	238

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196137.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196137

Sample Date: 8/17/2000

Matrix: Air in Summa Canister

Analysis Date: 8/23/2000

Date Received: 8/21/2000

Sample ID: 1416510 canister 93214 "Gate to biopad (downwind) 8/17/2000"

Compound

Estimated ppbv*

Trimethyl 1,3-cyclopentadiene	115
2,2,3-trimethyl hexane	86
2,2,6-trimethyl octane	100
1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	707
1-methyl-3-(1-methylethyl) benzene	578
Limonene	95
2,2,4,6,6-pentamethyl heptane	243
1-methyl-4-(1-methylethyl) 1,4-cyclohexadiene	388
2,2,6-trimethyl decane	128

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196137.doc/als

Research Triangle Park Laboratories, Inc.
8100 Brownleigh Drive, Suite 120
Raleigh, North Carolina 27617 (new zip code)
Phone: 919-510-0228 Fax: 919-510-0141
Web Site: www.rtp-labs.com

Chain of Custody Record

ISO 17025 Compliant for Testing Labs

RTPLabs

TOTAL P.02

Client: Sevenson Environmental		Project Manager: Bill M.		Phone Number: 610-453-9678		Fax Number: 978-608-8766		Date: 8/18/00	
Address: C/O ClinCorp. @ 51 Eames St.				Requested Analyses:				Page 1 of 1	
City: Wilmington		State: MA		Zip Code: 01887		RTP Labs Proj. Tracking No.: 196137			
Contract/Purchase Order No.:		Project Name: Clin Remediation							
Sample ID No. and Description	Date	Time	Matrix Air, Liq, Solid	Preservatives	# of Containers	TL-15 Library Search			
93023 North Side Area A (upwind)	8/15/00	1700	Air						
93496 North side Area B	8/15/00	↓							
11373 North side soil pad	8/15/00	↓							
96248 gate to drop pad (downwind)	8/15/00	1700							
12163 North side Area A	8/16/00	1000							
04310 North side Area B	8/16/00	↓							
12300 North side soil pad	8/16/00	↓							
93078 gate to drop pad	8/16/00	1000							
12610 North side area A (upwind)	8/17/00	1600							
A305 North side area B	8/17/00	↓							
12832 North side soil pad	8/17/00	↓							
93214 gate to drop pad (downwind)	8/17/00	1500	Air						
Turn Around Time Requested for Report: Business Days; *Rush Multipliers (Xx) <input type="checkbox"/> 1 day (4x) <input type="checkbox"/> 2 days (3x) <input type="checkbox"/> 3 days (2x) <input type="checkbox"/> 5 days (1.5x) <input type="checkbox"/> 10 days (1.1x) <input type="checkbox"/> 15 days				Data Pack: Std <input type="checkbox"/> Full <input type="checkbox"/> (1.1x surchar) Electronic Deliverable: <input type="checkbox"/> (1.1x surchar)				Possible Hazards/ Known Concentrations:	
Relinquished By: [Signature]				Date: 8/18/00		Time: 0900		Received By: Shipping Lab time	
Relinquished By: Via Fed Express Airtail # 80047279850				Date: _____		Time: _____		Received By: _____	

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196389 Severson 8/25/00 N. Debris

Autosampler: 3

Dil. Fact: 1.8

Misc: nafion off; cryotrap -5C;to15_lci;

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1417728.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	1399883	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.17	85.00	15561	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	7.47	84.00	21550	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.71	130.00	329661	44.7		89%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.21	78.00	42827	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.78	114.00	1753444	64.2		128%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.17	91.00	622359	13.2	0.9	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	16.12	112.00	11965	ND	0.9	
32	Ethyl benzene	100-41-4	16.67	91.00	59796	ND	0.9	
33	m,p-Xylene	1330-20-7	16.89	91.00	126504	ND	0.9	
34	o-Xylene	95-47-6	17.42	91.00	51256	ND	0.9	
35	Styrene	100-42-5	17.32	104.00	24067	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.54	83.00	14463	ND	0.9	
37	Bromofluorobenzene (SS)		17.97	95.00	708576	48.8		98%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	24775	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.83	105.00	39417	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	19.92	146.00	22459	ND	0.9	
41	Benzyl chloride	100-44-7	20.48	91.00	15568	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	20.02	146.00	27493	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	20.52	146.00	21829	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	23.49	180.00	19144	ND	0.9	
45	Hexachlorobutadiene	87-68-3	24.54	225.00	12307	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 9:30 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196389 Severson 8/25/00 North A

Autosampler: 4

Dil. Fact: 2.6

Misc: nalion off; cryotrap -5C;to15_lci;

5970MSD1

Method: 9700IS

File: C:\HPCHEM\119700\

1417729.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	1528466	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.18	85.00	11539	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	7.47	84.00	26189	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.71	130.00	362419	45.0		90%
17	Chloroform	67-66-3	10.03	83.00	11463	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	10.70	62.00	22386	ND	1.3	
20	Carbon tetrachloride	56-23-5	11.33	117.00	17624	ND	1.3	
21	Benzene	71-43-2	11.20	78.00	61573	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.78	114.00	1918698	64.3		129%
23	Trichloroethene	79-01-6	12.36	130.00	24266	1.5	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.17	91.00	550020	15.4	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	13.61	97.00	12304	ND	1.3	
29	Tetrachloroethene	127-18-4	15.35	164.00	31241	1.4	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.67	91.00	139722	1.6	1.3	
33	m,p-Xylene	1330-20-7	16.88	91.00	243834	1.8	1.3	
34	o-Xylene	95-47-6	17.41	91.00	116386	1.6	1.3	
35	Styrene	100-42-5	17.32	104.00	15474	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.49	83.00	83922	1.4	1.3	
37	Bromofluorobenzene (SS)		17.95	95.00	797902	50.3		101%
38	1,3,5-Trimethylbenzene	108-67-8	19.27	105.00	15927	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	23544	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	19.90	146.00	13607	ND	1.3	
41	Benzyl chloride	100-44-7	20.20	91.00	11650	ND	1.3	
42	1,4-Dichlorobenzene	106-46-7	20.02	146.00	17789	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	20.50	146.00	14185	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	23.50	180.00	11024	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 9:35 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

INDUSTRIAL HYGIENE**ENVIRONMENTAL TESTING**

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77273

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Willimington MA 01887

Project: 196389
Received: 30-AUG-00
Reported: 21-SEP-00

Project Description: Olin Remediation: TO-15
Standard TAT

<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
---------------	--------------	----------------------	--------------	---------------

93139 North of Debris/Soil Pad

Lab Sample: 1417728
sampled: 25-AUG-00 17:30

See Attached Report

04421 North of Area A

Lab Sample: 1417729
sampled: 25-AUG-00 17:30

See Attached Report

93208 North of Area B

Lab Sample: 1417730
sampled: 25-AUG-00 17:30

See Attached Report

92092 Gate to Bio Pad

Lab Sample: 1417731
sampled: 25-AUG-00 17:30

See Attached Report

9153B North of Debris/Soil Pile

Lab Sample: 1417732
sampled: 26-AUG-00 16:30

See Attached Report

PHILIP**ANALYTICAL SERVICES****INDUSTRIAL HYGIENE****ENVIRONMENTAL TESTING**

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77675

Client: Severson Environmental Services, Inc.
Project: 196389

<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
---------------	--------------	----------------------	--------------	---------------

03129 North of Area A

Lab Sample: 1417733
sampled: 26-AUG-00 16:30

See Attached Report

93048 North of Area B

Lab Sample: 1417734
sampled: 26-AUG-00 16:30

See Attached Report

11208 Gate to Bio Pad

Lab Sample: 1417735
sampled: 26-AUG-00 16:30

See Attached Report

Final sample concentrations calculated from sample areas supplied on chain of custody.

< Indicates less than the limit of quantitation.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196389 Severson 8/25/00 N. Area B

Autosampler: 5

Dil. Fact: 1.8

Misc: nafion off; cryotrap -5C; to15_lci;

5970MSD1

Method: 9700IS

File: C:\HPCHEM\119700\

1417730.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.06	117.00	1587110	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.18	85.00	17138	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	6.05	101.00	20601	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	7.43	84.00	104443	3.2	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	9.28	73.00	38954	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.73	130.00	371809	44.5		89%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.20	78.00	97702	1.2	0.9	
22	1,4-Difluorobenzene (SS)		11.78	114.00	2012787	65.0		130%
23	Trichloroethene	79-01-6	12.33	130.00	188387	7.7	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.16	91.00	2679967	50.1	0.9	
27	trans-1,3-dichloropropene	10061-02-6	14.16	75.00	22826	1.2	0.9	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.9	
29	Tetrachloroethene	127-18-4	15.37	164.00	10784	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.67	91.00	130741	1.0	0.9	
33	m,p-Xylene	1330-20-7	16.88	91.00	288762	1.4	0.9	
34	o-Xylene	95-47-6	17.41	91.00	75855	ND	0.9	
35	Styrene	100-42-5	17.32	104.00	19645	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.53	83.00	18167	ND	0.9	
37	Bromofluorobenzene (SS)		17.96	95.00	820836	49.9		100%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	14456	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	26000	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	19.91	146.00	10110	ND	0.9	
41	Benzyl chloride	100-44-7	20.47	91.00	17114	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	20.03	146.00	13659	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	20.52	146.00	10541	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 9:40 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300-amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196389 Severson 8/25/00 Gate to BioPa

Autosampler: 6

Dil. Fact: 2.4

Misc: nafion off; cryotrap -5C;to15_lci;

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1417731.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	1584943	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.17	85.00	13158	ND	1.2	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.2	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.2	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.2	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.2	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.2	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.2	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.2	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.2	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.2	
12	Methylene Chloride	75-09-2	7.43	84.00	54916	2.3	1.2	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.2	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.2	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.2	
16	Bromochloromethane (SS)		9.71	130.00	398792	47.8		96%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.2	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.2	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.2	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.2	
21	Benzene	71-43-2	11.23	78.00	25827	ND	1.2	
22	1,4-Difluorobenzene (SS)		11.79	114.00	2017705	65.2		130%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.2	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.2	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.2	
26	Toluene	108-88-3	14.17	91.00	566049	14.1	1.2	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.2	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.2	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.2	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.2	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.2	
32	Ethyl benzene	100-41-4	16.69	91.00	29454	ND	1.2	
33	m,p-Xylene	1330-20-7	16.89	91.00	69232	ND	1.2	
34	o-Xylene	95-47-6	17.42	91.00	21597	ND	1.2	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.2	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.2	
37	Bromofluorobenzene (SS)		17.97	95.00	816785	49.7		99%
38	1,3,5-Trimethylbenzene	108-67-8	19.30	105.00	10445	ND	1.2	
39	1,2,4-Trimethylbenzene	95-63-6	19.83	105.00	16036	ND	1.2	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.2	
41	Benzyl chloride	100-44-7	20.48	91.00	13907	ND	1.2	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.2	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.2	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.2	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.2	

Calibration Data:

NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 9:45 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196389 Severson 8/26/00 N. of Debris

Autosampler: 7

Dil. Fact: 3.1

Misc: nafion off; cryotrap -5C;to15_lci;

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1417732.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	1470813	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.18	85.00	11486	ND	1.6	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.6	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.6	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.6	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.6	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.6	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.6	
9	Trichlorofluoromethane (11)	75-69-4	6.08	101.00	16281	ND	1.6	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.6	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.6	
12	Methylene Chloride	75-09-2	7.42	84.00	92093	5.3	1.6	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.6	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.6	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.6	
16	Bromochloromethane (SS)		9.71	130.00	387072	50.0		100%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.6	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.6	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.6	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.6	
21	Benzene	71-43-2	11.21	78.00	37179	ND	1.6	
22	1,4-Difluorobenzene (SS)		11.80	114.00	1797141	62.6		125%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.6	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.6	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.6	
26	Toluene	108-88-3	14.16	91.00	1316730	45.7	1.6	
27	trans-1,3-dichloropropene	10061-02-6	14.16	75.00	10591	ND	1.6	
28	1,1,2-Trichloroethane	79-00-5	13.56	97.00	80489	7.4	1.6	
29	Tetrachloroethene	127-18-4	15.35	164.00	16760	ND	1.6	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.6	
31	Chlorobenzene	108-90-7	16.16	112.00	16539	ND	1.6	
32	Ethyl benzene	100-41-4	16.67	91.00	87880	ND	1.6	
33	m,p-Xylene	1330-20-7	16.88	91.00	176266	1.6	1.6	
34	o-Xylene	95-47-6	17.43	91.00	40957	ND	1.6	
35	Styrene	100-42-5	17.32	104.00	17467	ND	1.6	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.6	
37	Bromofluorobenzene (SS)		17.96	95.00	736302	48.3		97%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	19494	ND	1.6	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	63913	ND	1.6	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.6	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	1.6	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.6	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.6	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.6	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.6	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 9:49 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard: IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech; -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196389 Severson 8/26/00 N. Area A

Autosampler: 8

Dil. Fact: 1.8

Misc: nafion off; cryotrap -5C;to15_lci;

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1417733.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.06	117.00	1535255	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.15	85.00	18352	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	6.03	101.00	25285	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	7.43	84.00	356266	11.3	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	9.06	73.00	10765	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.73	130.00	381053	47.1		94%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.18	78.00	240831	3.2	0.9	
22	1,4-Difluorobenzene (SS)		11.80	114.00	1682509	56.1		112%
23	Trichloroethene	79-01-6	12.35	130.00	10311	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.18	91.00	6838258	132.1	0.9	
27	trans-1,3-dichloropropene	10061-02-6	14.18	75.00	64956	3.5	0.9	
28	1,1,2-Trichloroethane	79-00-5	13.56	97.00	93422	4.7	0.9	
29	Tetrachloroethene	127-18-4	15.34	164.00	66678	2.1	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	16.01	112.00	26269	ND	0.9	
32	Ethyl benzene	100-41-4	16.64	91.00	582677	4.5	0.9	
33	m,p-Xylene	1330-20-7	16.87	91.00	1126527	5.7	0.9	
34	o-Xylene	95-47-6	17.40	91.00	229277	2.2	0.9	
35	Styrene	100-42-5	17.31	104.00	163499	2.2	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.57	83.00	26866	ND	0.9	
37	Bromofluorobenzene (SS)		17.96	95.00	801440	50.3		101%
38	1,3,5-Trimethylbenzene	108-67-8	19.28	105.00	36062	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.81	105.00	99578	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.9	
41	Benzyl chloride	100-44-7	19.81	91.00	14030	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 9:54 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196389 Severson 8/26/00 N. Area B

Autosampler: 9

Dil. Fact: 1.7

Misc: nafion off; cryotrap -5C; to15_lci;

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1417734B.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.06	117.00	1274115	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.18	85.00	13809	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	4.71	64.00	10599	1.0	0.9	
9	Trichlorofluoromethane (11)	75-69-4	6.05	101.00	32691	1.0	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	7.33	84.00	1173008	42.4	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	9.08	73.00	28466	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.71	130.00	306362	45.7		91%
17	Chloroform	67-66-3	10.02	83.00	10711	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	10.69	62.00	12714	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.13	78.00	928456	13.8	0.9	
22	1,4-Difluorobenzene (SS)		11.78	114.00	1611308	64.8		130%
23	Trichloroethene	79-01-6	12.35	130.00	15823	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.18	91.00	8669978	190.6	0.9	
27	trans-1,3-dichloropropene	10061-02-6	14.18	75.00	85535	5.2	0.9	
28	1,1,2-Trichloroethane	79-00-5	14.37	97.00	11342	ND	0.9	
29	Tetrachloroethene	127-18-4	15.36	164.00	10860	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.66	91.00	121253	1.1	0.9	
33	m,p-Xylene	1330-20-7	16.88	91.00	232977	1.3	0.9	
34	o-Xylene	95-47-6	17.41	91.00	41856	ND	0.9	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.9	
37	Bromofluorobenzene (SS)		17.96	95.00	657776	49.8		100%
38	1,3,5-Trimethylbenzene	108-67-8	19.28	105.00	10298	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	26691	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.9	
41	Benzyl chloride	100-44-7	20.46	91.00	90304	3.1	0.9	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 3:23 PM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196389 Severson 8/26/00 Gate to BioPa

Autosampler: 10

Dil. Fact: 2.2

Misc: nafion off; cryotrap -5C; to15_lci;

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1417735.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.08	117.00	1642658	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.08	85.00	14277	ND	1.1	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.1	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.1	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.1	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.1	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.1	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.1	
9	Trichlorofluoromethane (11)	75-69-4	6.03	101.00	14587	ND	1.1	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.1	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.1	
12	Methylene Chloride	75-09-2	7.42	84.00	126032	4.6	1.1	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.1	
14	Methyl t-butyl ether (MTBE)	1634-04-4	9.35	73.00	23508	ND	1.1	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.1	
16	Bromochloromethane (SS)		9.74	130.00	321864	37.2		74%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.1	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.1	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.1	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.1	
21	Benzene	71-43-2	11.22	78.00	134962	2.0	1.1	
22	1,4-Difluorobenzene (SS)		11.80	114.00	2019174	63.0		126%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.1	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.1	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.1	
26	Toluene	108-88-3	14.16	91.00	4014506	88.6	1.1	
27	trans-1,3-dichloropropene	10061-02-6	14.16	75.00	34878	2.1	1.1	
28	1,1,2-Trichloroethane	79-00-5	13.58	97.00	11630	ND	1.1	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.1	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.1	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.1	
32	Ethyl benzene	100-41-4	16.68	91.00	112195	ND	1.1	
33	m,p-Xylene	1330-20-7	16.88	91.00	231732	1.3	1.1	
34	o-Xylene	95-47-6	17.43	91.00	48960	ND	1.1	
35	Styrene	100-42-5	17.33	104.00	18538	ND	1.1	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.1	
37	Bromofluorobenzene (SS)		17.96	95.00	883745	51.9		104%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	13048	ND	1.1	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	29375	ND	1.1	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.1	
41	Benzyl chloride	100-44-7	20.47	91.00	14799	ND	1.1	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.1	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.1	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.1	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.1	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 10:00 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196389
Sample Date: 8/25/2000 Matrix: Air in Summa Canister
Analysis Date: 9/7/2000 Date Received: 8/30/2000

Sample ID: 1417728 canister 93139 "North of Debris/Soil Pad 8/25/00"

Compound	Estimated ppbv*
----------	-----------------

Hexane

5

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196389
Sample Date: 8/25/2000 Matrix: Air in Summa Canister
Analysis Date: 9/7/2000 Date Received: 8/30/2000

Sample ID: 1417729 canister 04421 "North of Area A 8/25/00"

Compound	Estimated ppbv*
----------	-----------------

2-ethyl hexanal	11
2,2,6-trimethyl octane	10
2,2,7,7-tetramethyl octane	7
1-methyl-4-(1-methylethyl) 1,3-cyclohexadiene	145
1-methyl-4-(1-methylethyl) benzene	16
2,2,7-trimethyl decane	13
1-methyl-4-(1-methylethyl) 1,4-cyclohexadiene	31

Sample ID: 1417730 canister 93208 "North of Area B 8/25/00"

Compound	Estimated ppbv*
----------	-----------------

Acetic acid, methyl ester	9
Hexane	29
Methyl cyclopentane	12

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196389
Sample Date: 8/25/2000 Matrix: Air in Summa Canister
Analysis Date: 9/7/2000 Date Received: 8/30/2000

Sample ID: 1417731 canister 92092 "Gate to Biopad 8/25/00"

Compound	Estimated ppbv*
----------	-----------------

2,2,4-trimethyl pentane

11

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196389.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196389

Sample Date: 8/26/2000

Matrix: Air in Summa Canister

Analysis Date: 9/7/2000

Date Received: 8/30/2000

Sample ID: 1417732 canister 9153B "North of Debris/Soil Pad 8/26/00"

Compound	Estimated ppbv*
----------	-----------------

Hexane	14
2,2,4-trimethyl hexane	112
2,4,4-trimethyl-1-pentene	13
Octane	17

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1417733 canister 03129 "North of Area A 8/26/00"

Compound	Estimated ppbv*
----------	-----------------

Hexane	43
2,2,4-trimethyl hexane	87
2,4,4-trimethyl-1-pentene	29
Octane	35

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196389

Sample Date: 8/26/2000

Matrix: Air in Summa Canister

Analysis Date: 9/7/2000

Date Received: 8/30/2000

Sample ID: 1417734 canister 9304B "North of Area B 8/26/00"

Compound	Estimated ppbv*
----------	-----------------

Hexane	120
Methyl cyclopentane	29
2,2,4-trimethyl pentane	54
2,4,4-trimethyl-1-pentene	16
Methyl cyclohexane	11

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1417735 canister 11208 "Gate to Biopad 8/26/00"

Compound	Estimated ppbv*
----------	-----------------

Hexane	22
2,2,4-trimethyl hexane	21

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196389.doc/als

PHILIP**ANALYTICAL SERVICES****INDUSTRIAL HYGIENE****ENVIRONMENTAL TESTING**

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77672

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Willimington MA 01887

Project: 196471
Received: 01-SEP-00
Reported: 22-SEP-00

Project Description: Olin Remediation
TO-15 on Summas

<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
---------------	--------------	----------------------	--------------	---------------

12461

Lab Sample: 1418085
sampled: 28-AUG-00 17:00

See Attached Report

A220

Lab Sample: 1418086
sampled: 28-AUG-00 17:00

See Attached Report

93277

Lab Sample: 1418087
sampled: 28-AUG-00 17:00

See Attached Report

2424

Lab Sample: 1418088
sampled: 28-AUG-00 17:00

See Attached Report

3300

Lab Sample: 1418089
sampled: 30-AUG-00 17:15

See Attached Report

PHILIP**ANALYTICAL SERVICES****INDUSTRIAL HYGIENE****ENVIRONMENTAL TESTING**

- EPA/NVLAP 101262-0
- AIHA ACCREDITATION NO. 100439

- NY DOH 10903
- PA DER 06-353

- NJ DEP 77678

Client: Severson Environmental Services, Inc.
Project: 196471

<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
---------------	--------------	----------------------	--------------	---------------

8188

Lab Sample: 1418090
sampled: 30-AUG-00 17:15

See Attached Report

93141

Lab Sample: 1418091
sampled: 30-AUG-00 17:15

See Attached Report

2898

Lab Sample: 1418092
sampled: 30-AUG-00 17:15

See Attached Report

Final sample concentrations calculated from sample areas supplied on chain of custody.
< Indicates less than the limit of quantitation.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196471 Severson 8/28/00 can 12461 Autosampler: 11 Dil. Fact: 2.3
 Misc: nafion off; cryotrap -5C; to15_lci; N. Debris/Seal Hld JDU (07-06-01) 5970MSD1
 Method: 9700IS File: C:\HPCHEM\1\9700\ 1418085.D Reporting Limits IS/Surr.
 ppbv ppbv Recovery

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	ppbv	Recovery
1	Chlorobenzene-d5 (IS)		16.08	117.00	1598520	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.11	85.00	12662	ND	1.2	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.2	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.2	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.2	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.2	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.2	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.2	
9	Trichlorofluoromethane (11)	75-69-4	6.03	101.00	13697	ND	1.2	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.2	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.2	
12	Methylene Chloride	75-09-2	7.42	84.00	212959	8.3	1.2	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.2	
14	Methyl t-butyl ether (MTBE)	1634-04-4	9.32	73.00	32243	ND	1.2	
15	cis-1,2-Dichloroethene	156-59-2	9.57	61.00	11555	ND	1.2	
16	Bromochloromethane (SS)		9.74	130.00	348721	41.4		83%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.2	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.2	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.2	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.2	
21	Benzene	71-43-2	11.20	78.00	231234	3.7	1.2	
22	1,4-Difluorobenzene (SS)		11.80	114.00	1953712	62.6		125%
23	Trichloroethene	79-01-6	12.36	130.00	12078	ND	1.2	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.2	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.2	
26	Toluene	108-88-3	14.18	91.00	5700256	135.1	1.2	
27	trans-1,3-dichloropropene	10061-02-6	14.18	75.00	53581	3.5	1.2	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.2	
29	Tetrachloroethene	127-18-4	15.36	164.00	13048	ND	1.2	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.2	
31	Chlorobenzene	108-90-7	16.16	112.00	16095	ND	1.2	
32	Ethyl benzene	100-41-4	16.66	91.00	225833	2.1	1.2	
33	m,p-Xylene	1330-20-7	16.87	91.00	471076	2.9	1.2	
34	o-Xylene	95-47-6	17.41	91.00	131773	1.6	1.2	
35	Styrene	100-42-5	17.31	104.00	68384	ND	1.2	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.2	
37	Bromofluorobenzene (SS)		17.96	95.00	886848	53.5		107%
38	1,3,5-Trimethylbenzene	108-67-8	19.28	105.00	43570	ND	1.2	
39	1,2,4-Trimethylbenzene	95-63-6	19.81	105.00	127479	1.3	1.2	
40	1,3-Dichlorobenzene	541-73-1	20.02	146.00	31527	ND	1.2	
41	Benzyl chloride	100-44-7	19.95	91.00	97467	3.6	1.2	
42	1,4-Dichlorobenzene	106-46-7	20.02	146.00	31527	ND	1.2	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.2	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.2	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.2	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 10:07 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196471 Severson 8/28/00 can A220

Autosampler: 12

Dil. Fact: 1.9

Misc: nafion off; cryotrap -5C; to15_lci: SW. Area A JDU (07-06-01)

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1418086.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.08	117.00	1447459	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.11	85.00	14049	ND	1.0	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.0	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.0	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.0	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.0	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.0	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.0	
9	Trichlorofluoromethane (11)	75-69-4	6.05	101.00	15543	ND	1.0	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.0	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.0	
12	Methylene Chloride	75-09-2	7.42	84.00	72120	2.6	1.0	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.0	
14	Methyl t-butyl ether (MTBE)	1634-04-4	9.32	73.00	41823	ND	1.0	
15	cis-1,2-Dichloroethene	156-59-2	9.66	61.00	10329	ND	1.0	
16	Bromochloromethane (SS)		9.73	130.00	353329	46.3		93%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.0	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.0	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.0	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.0	
21	Benzene	71-43-2	11.22	78.00	54929	ND	1.0	
22	1,4-Difluorobenzene (SS)		11.80	114.00	1868102	66.1		132%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.0	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.0	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.0	
26	Toluene	108-88-3	14.16	91.00	2818513	61.0	1.0	
27	trans-1,3-dichloropropene	10061-02-6	14.16	75.00	25081	1.5	1.0	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.0	
29	Tetrachloroethene	127-18-4	15.36	164.00	38980	1.4	1.0	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.0	
31	Chlorobenzene	108-90-7	16.16	112.00	41808	ND	1.0	
32	Ethyl benzene	100-41-4	16.64	91.00	587629	5.1	1.0	
33	m,p-Xylene	1330-20-7	16.87	91.00	1213238	6.9	1.0	
34	o-Xylene	95-47-6	17.40	91.00	241028	2.6	1.0	
35	Styrene	100-42-5	17.29	104.00	190040	2.9	1.0	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.57	83.00	18408	ND	1.0	
37	Bromofluorobenzene (SS)		17.96	95.00	780095	52.0		104%
38	1,3,5-Trimethylbenzene	108-67-8	19.26	105.00	32851	ND	1.0	
39	1,2,4-Trimethylbenzene	95-63-6	19.81	105.00	57738	ND	1.0	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.0	
41	Benzyl chloride	100-44-7	19.59	91.00	10845	ND	1.0	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.0	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.0	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.0	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.0	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 10:13 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface: -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196471 Severson 8/28/00 can 93277

Autosampler: 13

Dil. Fact: 2.4

Misc: nation off; cryotrap -5C;to15_lci; North Area 13 2DU(07-06-01)

5970MSD1

Method: 9700IS

File: C:\HPCHEM\119700\

1418087.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	1469027	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.08	85.00	11639	ND	1.2	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.2	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.2	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.2	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.2	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.2	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.2	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.2	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.2	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.2	
12	Methylene Chloride	75-09-2	7.42	84.00	100011	4.4	1.2	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.2	
14	Methyl t-butyl ether (MTBE)	1634-04-4	9.28	73.00	82490	2.1	1.2	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.2	
16	Bromochloromethane (SS)		9.74	130.00	321673	41.6		83%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.2	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.2	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.2	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.2	
21	Benzene	71-43-2	11.21	78.00	136976	2.5	1.2	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1722785	60.1		120%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.2	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.2	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.2	
26	Toluene	108-88-3	14.16	91.00	2413043	64.9	1.2	
27	trans-1,3-dichloropropene	10061-02-6	14.16	75.00	20943	1.6	1.2	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.2	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.2	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.2	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.2	
32	Ethyl benzene	100-41-4	16.67	91.00	131633	1.4	1.2	
33	m,p-Xylene	1330-20-7	16.88	91.00	296332	2.1	1.2	
34	o-Xylene	95-47-6	17.41	91.00	65903	ND	1.2	
35	Styrene	100-42-5	17.32	104.00	30985	ND	1.2	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.2	
37	Bromofluorobenzene (SS)		17.97	95.00	814800	53.5		107%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	11273	ND	1.2	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	25088	ND	1.2	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.2	
41	Benzyl chloride	100-44-7	20.47	91.00	39925	1.7	1.2	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.2	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.2	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.2	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.2	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 10:17 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196471 Severson 8/28/00 can 12424

Autosampler: 14

Dil. Fact: 2.5

Misc: nalion off; cryotrap -5C; to15_lci; Gate to Rspcd 900(07-06-01)

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1418088.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	1448294	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.11	85.00	12685	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	6.03	101.00	26478	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	7.42	84.00	76135	3.6	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	9.30	73.00	95452	2.6	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.74	130.00	346173	45.4		91%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.21	78.00	152783	2.9	1.3	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1610606	57.0		114%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.18	91.00	2666089	75.8	1.3	
27	trans-1,3-dichloropropene	10061-02-6	14.16	75.00	22820	1.8	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.67	91.00	106750	ND	1.3	
33	m,p-Xylene	1330-20-7	16.88	91.00	244320	1.8	1.3	
34	o-Xylene	95-47-6	17.43	91.00	56301	ND	1.3	
35	Styrene	100-42-5	17.32	104.00	17478	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.97	95.00	784849	52.3		105%
38	1,3,5-Trimethylbenzene	108-67-8	19.12	105.00	26992	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	23475	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	20.47	91.00	28136	1.3	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 10:20 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196471 Severson 8/30/00 can 93300

Autosampler: 15

Dil. Fact: 2.8

Misc: nafion off; cryotrap -5C; to15_lci; No Debris/Seal Pad 2 DV(67-66-61)

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1418089B.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	1062875	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.15	85.00	12062	ND	1.4	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.4	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.4	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.4	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.4	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.4	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.4	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.4	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.4	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.4	
12	Methylene Chloride	75-09-2	7.43	84.00	40696	2.9	1.4	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.4	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.4	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.4	
16	Bromochloromethane (SS)		9.72	130.00	256093	45.7		91%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.4	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.4	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.4	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.4	
21	Benzene	71-43-2	11.23	78.00	21056	ND	1.4	
22	1,4-Difluorobenzene (SS)		11.79	114.00	1385474	66.8		134%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.4	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.4	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.4	
26	Toluene	108-88-3	14.17	91.00	920593	40.0	1.4	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.4	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.4	
29	Tetrachloroethene	127-18-4	15.37	164.00	13790	ND	1.4	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.4	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.4	
32	Ethyl benzene	100-41-4	16.67	91.00	70548	ND	1.4	
33	m,p-Xylene	1330-20-7	16.89	91.00	145514	1.6	1.4	
34	o-Xylene	95-47-6	17.42	91.00	35798	ND	1.4	
35	Styrene	100-42-5	17.32	104.00	22123	ND	1.4	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.4	
37	Bromofluorobenzene (SS)		17.97	95.00	552921	50.2		100%
38	1,3,5-Trimethylbenzene	108-67-8	19.12	105.00	22837	ND	1.4	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	20993	ND	1.4	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.4	
41	Benzyl chloride	100-44-7	20.54	91.00	139364	9.5	1.4	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.4	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.4	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.4	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.4	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 3:32 PM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196471 Severson 8/30/00 can 8818B

Autosampler: 16

Dil. Fact: 2.1

Misc: nafion off; cryotrap -5C; to15_lci; SW Area A JDU(07-06-01)

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1418090.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	1463562	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.13	85.00	14554	ND	1.1	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.1	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.1	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.1	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.1	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.1	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.1	
9	Trichlorofluoromethane (11)	75-69-4	6.06	101.00	11594	ND	1.1	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.1	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.1	
12	Methylene Chloride	75-09-2	7.45	84.00	12698	ND	1.1	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.1	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.1	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.1	
16	Bromochloromethane (SS)		9.74	130.00	322030	41.8		84%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.1	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.1	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.1	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.1	
21	Benzene	71-43-2	11.21	78.00	76090	1.2	1.1	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1646049	57.6		115%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.1	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.1	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.1	
26	Toluene	108-88-3	14.17	91.00	1106117	26.1	1.1	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.1	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.1	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.1	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.1	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.1	
32	Ethyl benzene	100-41-4	16.67	91.00	65705	ND	1.1	
33	m,p-Xylene	1330-20-7	16.89	91.00	151980	ND	1.1	
34	o-Xylene	95-47-6	17.42	91.00	55741	ND	1.1	
35	Styrene	100-42-5	17.32	104.00	11959	ND	1.1	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.1	
37	Bromofluorobenzene (SS)		17.97	95.00	780147	51.4		103%
38	1,3,5-Trimethylbenzene	108-67-8	19.29	105.00	11704	ND	1.1	
39	1,2,4-Trimethylbenzene	95-63-6	19.82	105.00	34882	ND	1.1	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.1	
41	Benzyl chloride	100-44-7	20.52	91.00	307864	11.5	1.1	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.1	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.1	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.1	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.1	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 10:50 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196471 Severson 8/30/00 can 93141

Autosampler: 3

Dil. Fact: 2.5

Misc: nafion off; cryotrap -5C; to15_lci; Neg. Area B QDV (07-06-01)

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1418091.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	1247092	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.15	85.00	11127	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	7.47	84.00	11026	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.72	130.00	328305	50.0		100%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.23	78.00	22255	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.79	114.00	1537358	63.2		126%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.19	91.00	384368	12.7	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.69	91.00	22889	ND	1.3	
33	m,p-Xylene	1330-20-7	16.89	91.00	57397	ND	1.3	
34	o-Xylene	95-47-6	17.42	91.00	23931	ND	1.3	
35	Styrene	100-42-5	17.30	104.00	300662	7.0	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.97	95.00	634564	49.1		98%
38	1,3,5-Trimethylbenzene	108-67-8	19.11	105.00	23864	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	19.83	105.00	20979	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	20.48	91.00	22777	ND	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 3:42 PM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

TO-14 and TO-15 targets only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196471 Severson 8/30/00 can 12898

Autosampler: 4

Dil. Fact: 2.8

Misc: nafion off; cryotrap -5C; to15_lci; E 1st gate to 2nd gate ADV (07-06-01)

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1418092.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	1134974	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.17	85.00	11563	ND	1.4	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.4	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.4	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.4	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.4	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.4	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.4	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.4	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.4	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.4	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.4	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.4	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.4	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.4	
16	Bromochloromethane (SS)		9.74	130.00	271067	45.3		91%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.4	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.4	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.4	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.4	
21	Benzene	71-43-2	11.25	78.00	17453	ND	1.4	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1359608	61.4		123%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.4	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.4	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.4	
26	Toluene	108-88-3	14.19	91.00	345521	14.0	1.4	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.4	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.4	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.4	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.4	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.4	
32	Ethyl benzene	100-41-4	16.69	91.00	34016	ND	1.4	
33	m,p-Xylene	1330-20-7	16.89	91.00	87778	ND	1.4	
34	o-Xylene	95-47-6	17.42	91.00	25205	ND	1.4	
35	Styrene	100-42-5	17.34	104.00	16512	ND	1.4	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.4	
37	Bromofluorobenzene (SS)		17.97	95.00	577697	49.1		98%
38	1,3,5-Trimethylbenzene	108-67-8	19.11	105.00	21980	ND	1.4	
39	1,2,4-Trimethylbenzene	95-63-6	19.83	105.00	20057	ND	1.4	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.4	
41	Benzyl chloride	100-44-7	20.48	91.00	18983	ND	1.4	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.4	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.4	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.4	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.4	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/8/00 3:45 PM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196471
Sample Date: 8/28/2000 Matrix: Air in Summa Canister
Analysis Date: 9/8/2000 Date Received: 9/1/2000

Sample ID: 1418085 canister 12461 N. Debris/Soil Pad JDU (07-06-01)

Compound	Estimated ppbv*
----------	-----------------

Hexane	50
3-methyl hexane	42
2,2,4-trimethyl pentane	38
Heptane	39

Sample ID: 1418086 canister A220 S.W. Area A JDU (07-06-01)

Compound	Estimated ppbv*
----------	-----------------

2-methyl pentane	34
2,2,-dimethyl hexane	20
Nonane	15

Sample ID: 1418087 canister 93277 N.W. Area B JDU (07-06-01)

Compound	Estimated ppbv*
----------	-----------------

Hexane	26
2-methyl pentane	8
3-methyl hexane	25
Heptane	24
1-methyl-4-(1-methylethyl)-1,3-cyclohexadiene	10

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196471.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196471
Sample Date: 8/28/2000 Matrix: Air in Summa Canister
Analysis Date: 9/8/2000 Date Received: 9/1/2000

Sample ID: 1418088 canister 12424 Gate to Biopad JDU (07-06-01)

Compound	Estimated ppbv*
Pentane	10
Hexane	29
3-methyl hexane	32
2,2,4-trimethyl pentane	17
Heptane	29

Sample Date: 8/30/2000

Sample ID: 1418089 canister 93300 North of Debris/Scrub Pad JDU (07-06-01)

Compound	Estimated ppbv*
Hexane	9

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196471.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120

Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196471
Sample Date: 8/30/2000 Matrix: Air in Summa Canister
Analysis Date: 9/8/2000 Date Received: 9/1/2000

Sample ID: 1418090 canister 8818B S.W Area A JDU(07-06-01)

Compound	Estimated ppbv*
----------	-----------------

2-butenal	25
Dimethyl disulfide	136
Methyl ethyl disulphide	31
Methyl isopropyl disulfide	6
Dimethyl trisulfide	144
Methyl isopentyl disulphide	5
Dimethyl tetrasulphide	32

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

Sample ID: 1418091 canister 93141 N. Th of Area B JDU(07-06-01)

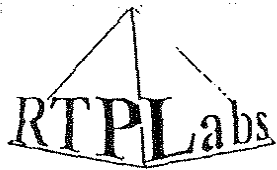
Compound	Estimated ppbv*
----------	-----------------

2-ethyl hexanal	12
1-methyl-4-(1-methylethyl)-1,3-cyclohexadiene	7

Sample ID: 1418092 canister 12898 E. of 1st gate to B. pad (07-06-01) JDU

Compound	Estimated ppbv*
----------	-----------------

1-methyl-4-(1-methylethyl)-1,3-cyclohexadiene	8
---	---



Chain of Custody Record

Research Triangle Park Laboratories, Inc
8100 Brownleigh Drive, Suite 120
Phone: 919-510-0228 Fax: 919-510-0141
Web Site: www.rtp-labs.com

Client: <u>Sevenson Environmental</u>		Project Manager: <u>Bill M.</u>		Phone Number: <u>610-453-9678</u>		Fax Number: <u>978-658-8766</u>		Date: <u>8/31/00</u>	
Address: <u>c/o Olin Corp. @ 51 Eames St.</u>				Requested Analyses				Page <u>1</u> of <u>1</u>	
City: <u>Wilmington</u>		State: <u>MA</u>		Zip Code: <u>01887</u>		Comments: <u>-#196471</u>			
Contract/Purchase Order No.:		Project Name: <u>Olin Remediation</u>							
Sample ID No. and Description		Date	Time	Matrix Air, Liq, Solid	Preservatives	# of Containers	TL-15	Library	Search
12461 N of Debris/Soil Pad		8-28	1700	Air					
A220 SW of Area A		8-28	1700						
93277 North of Area B		8-28	1700						
12424 Gate to Biopad		8-28	1700						
93300 N. of Debris/Soil Pad		8-30	1715						
8818 B SW of Area A		8-30	1715						
93141 North of Area B		8-30	1715						
12898 E 1st gate to Biopad		8-30	1715	Air					
DU (07.06.01)									
Turn Around Time Requested for Report: Business Days; *Rush Multipliers (Xx) <input type="checkbox"/> 1 day*(4x) <input type="checkbox"/> 2 days*(3x) <input type="checkbox"/> 3 days*(2x) <input type="checkbox"/> 5 days*(1.5x) <input type="checkbox"/> 10 days*(1.1x) <input type="checkbox"/> 15 days					Special QC Requirements:			Possible Hazards/ Known Concentrations:	
Relinquished By: <u>[Signature]</u> Date: <u>8/31/00</u> Time: <u>1700</u>					Received By: <u>Shipping Lab Time</u> Date: <u></u> Time: <u></u>				
Relinquished By: <u>Via Fed Express Air-b. 11 # 822520674155</u> Date: <u></u> Time: <u></u>					Received By: <u>Debra Engle</u> Date: <u>9-1-00</u> Time: <u>10:00am</u>				

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Willimington MA 01887

Project: 196388
Received: 30-AUG-00
Reported: 11-SEP-00

Project Description: Olin Remediation: TO-15
Rush Analysis

Sampled: 29-AUG-00 17:00

<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
---------------	--------------	----------------------	--------------	---------------

12311 Work Zone Area A

Lab Sample: 1417727

See Attached Report

Final sample concentrations calculated from sample areas supplied on chain of custody.
< Indicates less than the limit of quantitation.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196388 Severson-Olin 8/29/00 Area A

Autosampler: 3

Dil. Fact: 2.5

Misc: nalion off; 500ml; can 12311

5970MSD1

Method: 82300IS

File: C:\HPCHEM\1\82300\

1417727.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.10	117.00	660562	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	15258	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	7.48	84.00	76589	3.2	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.78	130.00	205452	41.8		84%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.26	78.00	19637	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1047745	47.0		94%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.21	91.00	401854	4.4	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	13.62	97.00	38224	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.70	91.00	26424	ND	1.3	
33	m,p-Xylene	1330-20-7	16.92	91.00	54750	ND	1.3	
34	o-Xylene	95-47-6	17.46	91.00	22161	ND	1.3	
35	Styrene	100-42-5	17.35	104.00	23571	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		18.00	95.00	258709	43.7		87%
38	1,3,5-Trimethylbenzene	108-67-8	19.30	105.00	11734	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	21835	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	20.04	146.00	11308	ND	1.3	
41	Benzyl chloride	100-44-7	20.48	91.00	129496	3.4	1.3	
42	1,4-Dichlorobenzene	106-46-7	20.04	146.00	11308	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	23.53	180.00	11881	ND	1.3	
45	Hexachlorobutadiene	87-68-3	24.55	225.00	13615	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10N.D

615_20F.D

615_30F.D

Date Printed:

8/31/00 9:42 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



919 510-0141 Fax Web Site: www.rtp-labs.com

File: 196388.doc/als

Chain of Custody Record

RTPLabs

TOTAL P.03

[illegible]

INDUSTRIAL HYGIENE**ENVIRONMENTAL TESTING**

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77675

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Willimington MA 01887

Project: 196766
Received: 12-SEP-00
Reported: 22-SEP-00

Project Description: E672/Olin Corp: TO-15 + Lib. Search
Sampled 9/7 & 9/8/00

<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
---------------	--------------	----------------------	--------------	---------------

93081 SW of drum Area A

Lab Sample: 1419195
sampled: 07-SEP-00 17:06

See Attached Report

A301 East of first gate to BC

Lab Sample: 1419196
sampled: 07-SEP-00 17:06

See Attached Report

12618 North of Area B

Lab Sample: 1419197
sampled: 07-SEP-00 17:06

See Attached Report

Sod
12467 North of Seal Pad

Lab Sample: 1419198
sampled: 07-SEP-00 17:06

See Attached Report

12155 South West of Area A

Lab Sample: 1419199
sampled: 08-SEP-00 17:15

See Attached Report

INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77673

Client: Severson Environmental Services, Inc.
Project: 196766

<u>RESULT</u>	<u>UNITS</u>	<u>CONCENTRATION</u>	<u>UNITS</u>	<u>METHOD</u>
---------------	--------------	----------------------	--------------	---------------

93218 East of 1st gate to BC

Lab Sample: 1419200
sampled: 08-SEP-00 17:15

See Attached Report

12638 North of Area B

Lab Sample: 1419201
sampled: 08-SEP-00 17:15

See Attached Report

12830 North of concrete ^{soil} ~~seal~~ pad

Lab Sample: 1419202
sampled: 08-SEP-00 17:15

See Attached Report

Final sample concentrations calculated from sample areas supplied on chain of custody.
< Indicates less than the limit of quantitation.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196766 Severson/Olin 9/7/00

Autosampler: 8

Dil. Fact: 1.7

Misc: nafion off; 500mL; SW Drum Area "A"

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1419195.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1630965	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	11472	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl-1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	7.52	84.00	11956	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.78	130.00	362049	42.1		84%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.28	78.00	20276	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1462350	45.9		92%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.26	91.00	128665	2.2	0.9	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.72	91.00	22057	ND	0.9	
33	m,p-Xylene	1330-20-7	16.93	91.00	48087	ND	0.9	
34	o-Xylene	95-47-6	17.46	91.00	17930	ND	0.9	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.9	
37	Bromofluorobenzene (SS)		17.99	95.00	875116	51.7		103%
38	1,3,5-Trimethylbenzene	108-67-8	19.15	105.00	21846	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.87	105.00	20132	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.9	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/18/00 10:04 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15 Ici.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196766 Severson/Olin 9/7/00

Autosampler: 9

Dil. Fact: 2.6

Misc: nafion off; 500mL; E. of gate to BC

5970MSD1

Method: 9700IS

File: C:\HPCHEM\119700\

1419196.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1614944	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.25	85.00	16207	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2- Cl 1,2,2- F elhane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	7.52	84.00	11348	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.78	130.00	355962	41.9		84%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	11.28	78.00	16061	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1496853	47.5		95%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.24	91.00	175899	4.7	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	13.66	97.00	10254	ND	1.3	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.72	91.00	19392	ND	1.3	
33	m,p-Xylene	1330-20-7	16.93	91.00	41404	ND	1.3	
34	o-Xylene	95-47-6	17.46	91.00	14886	ND	1.3	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.99	95.00	850580	50.8		102%
38	1,3,5-Trimethylbenzene	108-67-8	19.15	105.00	16065	ND	1.3	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	15504	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/18/00 10:05 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196766 Severson/Olin 9/7/00

Autosampler: 10

Dil. Fact: 1.7

Misc: nafion off; 500mL; North of Area "B"

5970MSD1

Method: 9700iS

File: C:\HPCHEM\1\9700\

1419197.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.10	117.00	1636936	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.25	85.00	22980	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	7.52	84.00	11202	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.78	130.00	357447	41.5		83%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.28	78.00	20378	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1798385	56.3		113%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.21	91.00	1028526	17.8	0.9	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	13.64	97.00	39092	1.8	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.72	91.00	24151	ND	0.9	
33	m,p-Xylene	1330-20-7	16.93	91.00	50650	ND	0.9	
34	o-Xylene	95-47-6	17.46	91.00	18284	ND	0.9	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.9	
37	Bromofluorobenzene (SS)		17.99	95.00	859158	50.6		101%
38	1,3,5-Trimethylbenzene	108-67-8	19.15	105.00	19844	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.87	105.00	18708	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.9	
41	Benzyl chloride	100-44-7	20.57	91.00	14552	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/18/00 10:06 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196766 Severson/Olin 9/8/00 9/7/00

Autosampler: 11

Dil. Fact: 1.7

Misc: naffion off; 500mL; North of Area "A" JDU(07-06-01)

5970MSD1

Method: 9700IS

File:

C:\HPCHEM\19700\

1419198.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1622008	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	17420	ND	0.8	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.8	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.8	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.8	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.8	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.8	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.8	
12	Methylene Chloride	75-09-2	7.52	84.00	16129	ND	0.8	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.8	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.8	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.8	
16	Bromochloromethane (SS)		9.78	130.00	357154	41.8		84%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.8	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.8	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.8	
21	Benzene	71-43-2	11.28	78.00	23786	ND	0.8	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1710754	54.0		108%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.8	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.8	
26	Toluene	108-88-3	14.22	91.00	484701	8.2	0.8	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.8	
28	1,1,2-Trichloroethane	79-00-5	13.66	97.00	10976	ND	0.8	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.8	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.8	
32	Ethyl benzene	100-41-4	16.72	91.00	27585	ND	0.8	
33	m,p-Xylene	1330-20-7	16.93	91.00	62702	ND	0.8	
34	o-Xylene	95-47-6	17.46	91.00	22635	ND	0.8	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.8	
37	Bromofluorobenzene (SS)		17.99	95.00	845310	50.3		101%
38	1,3,5-Trimethylbenzene	108-67-8	19.13	105.00	28940	ND	0.8	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	27683	ND	0.8	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.8	
41	Benzyl chloride	100-44-7	20.57	91.00	20423	ND	0.8	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.8	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.8	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.8	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/18/00 10:07 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196766 Severson/Olin 9/8/00

Autosampler: 12

Dil. Fact: 1.8

Misc: nafion off; 500mL; SW of Area "A"

5970MSD1

Method: 9700IS

File: C:\HPCHEM\119700\

1419199.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1611735	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	15698	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.78	130.00	358370	42.2		84%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.28	78.00	21408	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1616748	51.4		103%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.26	91.00	103490	1.9	0.9	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.70	91.00	23908	ND	0.9	
33	m,p-Xylene	1330-20-7	16.93	91.00	52544	ND	0.9	
34	o-Xylene	95-47-6	17.44	91.00	20763	ND	0.9	
35	Styrene	100-42-5	17.35	104.00	10709	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.10	83.00	16471	ND	0.9	
37	Bromofluorobenzene (SS)		17.99	95.00	853830	51.1		102%
38	1,3,5-Trimethylbenzene	108-67-8	19.30	105.00	16526	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	37216	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.9	
41	Benzyl chloride	100-44-7	20.57	91.00	11097	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/18/00 10:08 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196766 Severson/Olin 9/8/00

Autosampler: 13

Dil. Fact: 2.1

Misc: nafion off; 500mL; East of 1st Gate

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1419200.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1621264	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.17	85.00	17107	ND	1.0	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.0	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.0	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.0	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.0	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.0	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.0	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.0	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.0	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.0	
12	Methylene Chloride	75-09-2	7.52	84.00	24107	ND	1.0	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.0	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.0	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.0	
16	Bromochloromethane (SS)		9.78	130.00	361734	42.4		85%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.0	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.0	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.0	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.0	
21	Benzene	71-43-2	11.26	78.00	35733	ND	1.0	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1575933	49.8		100%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.0	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.0	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.0	
26	Toluene	108-88-3	14.22	91.00	425111	9.0	1.0	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.0	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.0	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.0	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.0	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.0	
32	Ethyl benzene	100-41-4	16.70	91.00	24744	ND	1.0	
33	m,p-Xylene	1330-20-7	16.93	91.00	62516	ND	1.0	
34	o-Xylene	95-47-6	17.44	91.00	20936	ND	1.0	
35	Styrene	100-42-5	17.35	104.00	10058	ND	1.0	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.0	
37	Bromofluorobenzene (SS)		17.99	95.00	861366	51.2		102%
38	1,3,5-Trimethylbenzene	108-67-8	19.30	105.00	16175	ND	1.0	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	38032	ND	1.0	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.0	
41	Benzyl chloride	100-44-7	20.50	91.00	11935	ND	1.0	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.0	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.0	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.0	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.0	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/18/00 10:10 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15 Ici.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196766 Severson/Olin 9/8/00

Autosampler: 14

Dil. Fact: 2.8

Misc: nafion off; 500mL; North of Area "B"

5970MSD1

Method: 9700IS

File: C:\HPCHEM\1\9700\

1419201.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.10	117.00	1623780	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	10378	ND	1.4	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.4	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.4	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.4	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.4	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.4	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.4	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.4	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.4	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.4	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.4	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.4	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.4	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.4	
16	Bromochloromethane (SS)		9.78	130.00	355771	41.6		83%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.4	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.4	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.4	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.4	
21	Benzene	71-43-2	11.28	78.00	14150	ND	1.4	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1539882	48.6		97%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.4	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.4	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.4	
26	Toluene	108-88-3	14.24	91.00	195776	5.5	1.4	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.4	
28	1,1,2-Trichloroethane	79-00-5	13.62	97.00	99664	7.4	1.4	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.4	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.4	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.4	
32	Ethyl benzene	100-41-4	16.72	91.00	12074	ND	1.4	
33	m,p-Xylene	1330-20-7	16.94	91.00	25295	ND	1.4	
34	o-Xylene	95-47-6	17.46	91.00	10549	ND	1.4	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.4	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.4	
37	Bromofluorobenzene (SS)		17.99	95.00	861908	51.2		102%
38	1,3,5-Trimethylbenzene	108-67-8	19.15	105.00	12534	ND	1.4	
39	1,2,4-Trimethylbenzene	95-63-6	19.87	105.00	11535	ND	1.4	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.4	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	1.4	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.4	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.4	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.4	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.4	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/18/00 10:14 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15 Ici.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 196766 Severson/Olin 9/8/00

Autosampler: 15

Dil. Fact: 1.7

Misc: nafion off; 500mL; N. of concrete Soil Pad

5970MSD1

Method: 9700IS

File: C:\HPCHEM\119700\

1419202.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.10	117.00	1597358	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.23	85.00	18651	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.78	130.00	344364	40.9		82%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.28	78.00	21595	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1741032	55.8		112%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.22	91.00	339395	6.0	0.9	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	13.64	97.00	40829	1.9	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.72	91.00	21409	ND	0.9	
33	m,p-Xylene	1330-20-7	16.93	91.00	44467	ND	0.9	
34	o-Xylene	95-47-6	17.46	91.00	15978	ND	0.9	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.9	
37	Bromofluorobenzene (SS)		17.99	95.00	839994	50.7		101%
38	1,3,5-Trimethylbenzene	108-67-8	19.13	105.00	21035	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	19041	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.9	
41	Benzyl chloride	100-44-7	20.55	91.00	47360	1.3	0.9	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

615_10T.D

615_20I.D

615_30H.D

Date Printed:

9/18/00 10:16 AM

Report: TD-15RPT3.XLS

NO = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ug each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15 Ici.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196766
Sample Date: 9/7/2000 Matrix: Air in Summa Canister
Analysis Date: 9/15/2000 Date Received: 9/12/2000

Sample ID: 1419195 canister 93081 "SW of drum Area A"

Compound	Estimated ppbv*
Heneicosane	8
Pentadecane	6
Tetradecane	24

Sample ID: 1419196 canister A301 "East of first gate to BC"

Compound	Estimated ppbv*
2,3,7-trimethyl decane	38
Heneicosane	10
2-ethyl-2-methyl-tridecanol	8

Sample ID: 1419197 canister 12618 "North of Area B"

Compound	Estimated ppbv*
2,4,4-trimethyl-1-pentene	11
2,3,7-trimethyl decane	19
2-ethyl-2-methyl-tridecanol	5
2,6,10-trimethyl dodecane	17

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196766.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196766
Sample Date: 9/7/2000 Matrix: Air in Summa Canister
Analysis Date: 9/15/2000 Date Received: 9/12/2000

Sample ID: 1419198 canister 12467 "North of Soil Pad"

Compound	Estimated ppbv*
----------	-----------------

Tetradecane	17
Heneicosane	6
2,6,10-trimethyl dodecane	15

Sample Date: 9/8/2000

Sample ID: 1419199 canister 12155 "South West of Area A"

Compound	Estimated ppbv*
----------	-----------------

2,2,7-trimethyl decane	5
3,8-dimethyl heptane	13
2,6,10-trimethyl dodecane	6

Sample Date: 9/8/2000

Sample ID: 1419200 canister 93218 "East of First Gate to BC"

Compound	Estimated ppbv*
----------	-----------------

2,6-dimethyl undecane	11
2,3,7-trimethyl octane	12
Tetradecane	23
Pentadecane	6

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196766.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 196766

Sample Date: 9/8/2000

Matrix: Air in Summa Canister

Analysis Date: 9/15/2000

Date Received: 9/12/2000

Sample ID: 1419201 canister 12638 "North of Area B"

Compound	Estimated ppbv*
2,2,4-trimethyl pentane	17
Formic acid, butyl ester	7
Tetradecane	26
Decyl cyclopentane	7
8-methyl heptadecane	22

Sample ID: 1419202 canister 12830 "North of Concrete Soil Pad"

Compound	Estimated ppbv*
2,4,4-trimethyl-1-pentene	9
bis (1-methylethyl) disulfide	11
n-propyl s-butyl disulphide	29
bis (1-methylpropyl) disulfide	16
Heneicosane	5
Tetradecane	13

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 196766.doc/als



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Willimington MA 01887

Project: 197010
Received: 20-SEP-00
Reported: 29-SEP-00

Project Description: Olin Remediation: TO-15
Sampled 9/11 & 13/00

<u>RESULT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>DATE</u>	<u>ANALYST</u>
---------------	--------------	---------------	-------------	----------------

93020 SW Drum Area A

Lab Sample: 1420168
sampled: 11-SEP-00 17:00

See Attached Report

93229 East of grate to Bio Cal

Lab Sample: 1420169
sampled: 11-SEP-00 17:00

See Attached Report

9428BB North of Area B

Lab Sample: 1420170
sampled: 11-SEP-00 17:00

See Attached Report

9605B North of Soil Pad

Lab Sample: 1420171
sampled: 11-SEP-00 17:00

See Attached Report

93294 SW of Drum Area A

Lab Sample: 1420172
sampled: 13-SEP-00 18:30

See Attached Report

PHILIP**ANALYTICAL SERVICES****INDUSTRIAL HYGIENE****ENVIRONMENTAL TESTING**

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

Client: Severson Environmental Services, Inc.
Project: 197010

RESULTUNITSMETHODDATEANALYSTA304 East of First gate to BC

Lab Sample: 1420173

sampled: 13-SEP-00 18:30

See Attached Report

9334B North of Soil Pad

Lab Sample: 1420174

sampled: 13-SEP-00 18:30

See Attached Report

12256 North of Area B

Lab Sample: 1420175

sampled: 13-SEP-00 18:30

See Attached Report

< Indicates less than the limit of quantitation.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197010 Severson/Olin 9/11/00 Autosampler: 3 Dil. Fact: 4.2
 Misc: nation off: 500 mL; can 93020 SW Drum Area A 5970MSD1
 Method: 920001S File: C:\HPCHEM\1\920001\ 1420188.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.10	117.00	1230254	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	0.00	85.00	0	ND	2.1	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	2.1	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	2.1	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	2.1	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	2.1	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	2.1	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	2.1	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	2.1	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	2.1	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	2.1	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	2.1	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	2.1	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	2.1	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	2.1	
16	Bromochloromethane (SS)		9.76	130.00	326943	51.0		102%
17	Chloroform	67-66-3	0.00	83.00	0	ND	2.1	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	2.1	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	2.1	
20	Carbon tetrachloride	58-23-5	0.00	117.00	0	ND	2.1	
21	Benzene	71-43-2	11.26	78.00	23472	ND	2.1	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1470582	49.0		98%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	2.1	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	2.1	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	2.1	
26	Toluene	108-88-3	14.26	91.00	56270	ND	2.1	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	2.1	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	2.1	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	2.1	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	2.1	
31	Chlorobenzene	108-90-7	16.15	112.00	12802	ND	2.1	
32	Ethyl benzene	100-41-4	16.72	91.00	26082	ND	2.1	
33	m,p-Xylene	1330-20-7	16.94	91.00	59932	ND	2.1	
34	o-Xylene	95-47-5	17.45	91.00	28857	ND	2.1	
35	Styrene	100-42-5	0.00	104.00	0	ND	2.1	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.57	83.00	20460	ND	2.1	
37	Bromofluorobenzene (SS)		18.00	95.00	620140	46.6		93%
38	1,3,5-Trimethylbenzene	108-67-8	19.32	105.00	30414	ND	2.1	
39	1,2,4-Trimethylbenzene	95-63-6	19.87	105.00	34538	ND	2.1	
40	1,3-Dichlorobenzene	541-73-1	19.95	146.00	20198	ND	2.1	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	2.1	
42	1,4-Dichlorobenzene	106-46-7	20.07	146.00	22871	ND	2.1	
43	1,2-Dichlorobenzene	95-50-1	20.55	146.00	21126	ND	2.1	
44	1,2,4-Trichlorobenzene	120-82-1	23.53	180.00	22377	3.8	2.1	
45	Hexachlorobutadiene	87-68-3	24.56	225.00	21184	3.5	2.1	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_5B.D 920_10D.D 920_20C.D 920_30C.D

Date Printed: 9/28/00 9:51 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_id.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197010 Severson/Olin 9/11/00 Autosampler: 4 Dil. Fact: 1.7
 Misc: nation off; 500 mL; can 93228 E. of gate lo 5970MSD1
 Method: 92000IS File: C:\HPCHEM\1192000\ 1420169.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.10	117.00	1335905	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	14989	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	81.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.78	130.00	299178	43.0		86%
17	Chloroform	67-68-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	58-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.28	78.00	24082	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1691403	51.9		104%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.24	91.00	148746	1.5	0.9	
27	trans-1,3-dichloropropene	10051-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	14.41	97.00	31090	ND	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	16.17	112.00	10142	ND	0.9	
32	Ethyl benzene	100-41-4	16.72	91.00	45649	ND	0.9	
33	m,p-Xylene	1330-20-7	16.93	91.00	92036	ND	0.9	
34	o-Xylene	95-47-6	17.46	91.00	42567	ND	0.9	
35	Styrene	100-42-5	17.35	104.00	12786	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.56	83.00	17106	ND	0.9	
37	Bromofluorobenzene (SS)		18.00	95.00	700825	48.5		97%
38	1,3,5-Trimethylbenzene	108-67-3	19.32	105.00	40624	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	87549	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	20.06	146.00	24169	ND	0.9	
41	Benzyl chloride	100-44-7	20.57	91.00	18563	1.5	0.9	
42	1,4-Dichlorobenzene	106-46-7	20.06	146.00	24169	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	20.55	146.00	21272	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	23.52	180.00	18797	1.2	0.9	
45	Hexachlorobutadiene	87-68-3	24.56	225.00	12993	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_59.D 920_100.D 920_20C.D 920_30C.D

Date Printed: 9/26/00 9:54 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197010 Severson/Olin 9/11/00

Autosampler: 5

Dil. Fact: 1.7

Misc: nalon off; 500 mL; can 9428BB N. of Area B

5970MSD1

Method: 92000IS

File: C:\HPCHEM\1\92000\

1420170.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.10	117.00	1531289	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.18	85.00	18072	ND	0.8	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.8	
4	1,2- Cl- 1,1,2,2-F ethane (114)	78-14-2	0.00	85.00	0	ND	0.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.8	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.8	
9	Trichlorofluoromethane (11)	75-89-4	6.18	101.00	10799	ND	0.8	
10	1,1-Dichloroethane	75-35-4	0.00	61.00	0	ND	0.8	
11	1,1,2- Cl 1,2,2-F ethane (113)	76-13-1	0.00	151.00	0	ND	0.8	
12	Methylene Chloride	75-09-2	7.52	84.00	14475	ND	0.8	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.8	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.8	
15	cis-1,2-Dichloroethane	156-59-2	0.00	61.00	0	ND	0.8	
16	Bromochloromethane (SS)		9.78	130.00	357634	44.8		90%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.8	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.8	
20	Carbon tetrachloride	58-23-5	0.00	117.00	0	ND	0.8	
21	Benzene	71-43-2	11.28	78.00	29403	ND	0.8	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1969378	52.7		105%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	0.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.8	
25	cis-1,3-dichloropropane	542-75-6	0.00	75.00	0	ND	0.8	
26	Toluene	108-88-3	14.24	91.00	188422	1.7	0.8	
27	trans-1,3-dichloropropene	10081-02-6	0.00	75.00	0	ND	0.8	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.8	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.8	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.8	
32	Ethyl benzene	100-41-4	16.72	91.00	39347	ND	0.8	
33	m,p-Xylene	1330-20-7	16.93	91.00	87688	ND	0.8	
34	o-Xylene	95-47-8	17.46	91.00	35057	ND	0.8	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.59	83.00	11595	ND	0.8	
37	Bromofluorobenzene (SS)		18.00	95.00	834297	50.4		101%
38	1,3,5-Trimethylbenzene	108-87-8	19.32	105.00	22888	ND	0.8	
39	1,2,4-Trimethylbenzene	95-83-6	19.87	105.00	38769	ND	0.8	
40	1,3-Dichlorobenzene	541-73-1	19.95	146.00	12488	ND	0.8	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	0.8	
42	1,4-Dichlorobenzene	106-46-7	20.07	146.00	16261	ND	0.8	
43	1,2-Dichlorobenzene	95-50-1	20.57	146.00	12647	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	23.53	180.00	10425	ND	0.8	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.8	

Calibration Data: NIST Traceable Standard Cylinder, Spectra Gases L69236, 1ppmv

920_5B.D 920_10D.D

920_20C.D

920_30C.D

Date Printed:

9/26/00 9:58 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SP8-1 Fused Silica, 30m x 0.25mm, 0.25u film; direct interface: -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutach: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_Id.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197010 Severson/Olin 8/11/00 Autosampler: 6 Dil. Fact: 3.2
 Misc: nelson off; 500 mL; can 9805B N. of Soil Pad 5970MSD1
 Method: 92000IS File: C:\HPCHEM\1192000\ 1420171.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Limit ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.11	117.00	1583022	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	11173	ND	1.6	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.6	
4	1,2- Cl- 1,1,2,2-F ethane (114)	78-14-2	0.00	85.00	0	ND	1.6	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.6	
6	1,3-Butadiene	106-98-0	0.00	54.00	0	ND	1.6	
7	Bromomethane	74-83-9	0.00	84.00	0	ND	1.6	
8	Chloroethane	75-00-3	0.00	84.00	0	ND	1.6	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.6	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.6	
11	1,1,2- Cl 1,2,2- F ethane (113)	78-13-1	0.00	151.00	0	ND	1.6	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.6	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.6	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.6	
15	cis-1,2-Dichloroethene	156-59-2	0.00	81.00	0	ND	1.6	
16	Bromochloromethane (SS)		9.78	130.00	401906	48.8		98%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.6	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.6	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.6	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.6	
21	Benzene	71-43-2	11.28	78.00	20285	ND	1.6	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1634917	42.3		85%
23	Trichloroethene	78-01-8	0.00	130.00	0	ND	1.6	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.6	
25	cis-1,3-dichloropropene	542-75-8	0.00	75.00	0	ND	1.6	
26	Toluene	108-88-3	14.22	91.00	579073	9.5	1.6	
27	trans-1,3-dichloropropene	10081-02-8	0.00	75.00	0	ND	1.6	
28	1,1,2-Trichloroethane	79-00-5	14.41	87.00	34690	ND	1.6	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.6	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.6	
31	Chlorobenzene	108-90-7	16.21	112.00	10961	ND	1.6	
32	Ethyl benzene	100-41-4	16.71	91.00	60478	ND	1.6	
33	m,p-Xylene	1330-20-7	16.93	91.00	172061	ND	1.6	
34	o-Xylene	95-47-8	17.46	91.00	26859	ND	1.6	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.6	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.61	83.00	33740	ND	1.6	
37	Bromofluorobenzene (SS)		17.99	95.00	852750	49.8		100%
38	1,3,5-Trimethylbenzene	108-67-8	19.31	105.00	123215	2.0	1.6	
39	1,2,4-Trimethylbenzene	95-03-6	19.64	105.00	159065	2.7	1.6	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.6	
41	Benzyl chloride	100-44-7	19.84	91.00	21866	2.8	1.6	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.6	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.6	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.6	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.6	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_5B.D 920_10D.D 920_20C.D 920_30C.D

Date Printed: 9/26/00 9:59 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15 Ici.

"Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets."

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197010 Severson/Olin 8/13/00

Autosampler: 7

Dil. Fact: 3.3

Misc: naffion off; 500 mL; can 93294 SW Drum Area A

5970MSD1

Method: 920001S

File: C:\HPCHEM\1\920001

1420172.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Limit ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.10	117.00	1603224	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.23	85.00	11838	ND	1.7	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.7	
4	1,2- Cl- 1,1,2,2-F ethane (114)	78-14-2	0.00	85.00	0	ND	1.7	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.7	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.7	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.7	
8	Chloroethane	75-00-3	0.00	84.00	0	ND	1.7	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.7	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.7	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.7	
12	Methylene Chloride	75-09-2	7.52	84.00	15836	ND	1.7	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.7	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.7	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.7	
16	Bromochloromethane (SS)		9.78	130.00	380471	45.6		91%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.7	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.7	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.7	
20	Carbon tetrachloride	58-23-5	0.00	117.00	0	ND	1.7	
21	Benzene	71-43-2	11.28	78.00	10593	ND	1.7	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1752830	44.8		90%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.7	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.7	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.7	
26	Toluene	108-88-3	14.27	91.00	85833	ND	1.7	
27	trans-1,3-dichloropropene	10061-02-8	0.00	75.00	0	ND	1.7	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.7	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.7	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.7	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.7	
32	Ethyl benzene	100-41-4	16.72	91.00	14514	ND	1.7	
33	m,p-Xylene	1330-20-7	16.94	91.00	35208	ND	1.7	
34	o-Xylene	95-47-6	17.47	91.00	15444	ND	1.7	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.7	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.7	
37	Bromofluorobenzene (SS)		18.00	95.00	853589	49.2		98%
38	1,3,5-Trimethylbenzene	108-67-8	19.34	105.00	10122	ND	1.7	
39	1,2,4-Trimethylbenzene	95-53-6	19.87	105.00	14080	ND	1.7	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.7	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	1.7	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.7	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.7	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.7	
45	Hexachlorobutadiene	87-58-3	0.00	225.00	0	ND	1.7	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_58.D 920_100.D

920_20C.D

920_30C.D

Date Printed:

8/28/00 10:01 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard. IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface: -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutec: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lo.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philp 197010 Severson/Olin 9/13/00 Autosampler: 8 Dil. Fact: 1.9
 Misc: nation off; 500 mL; can A305 E. of 1st gate 5970MSD1
 Method: 920001S A304 File: C:\HPCHEM\1920001 1420173.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Reporting Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.12	117.00	1605235	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	17525	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	78-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-59-4	6.18	101.00	10344	ND	0.9	
10	1,1-Dichloroethene	75-35-4	6.99	61.00	13700	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	7.52	84.00	14004	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.78	130.00	413588	49.5		99%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-8	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.28	78.00	14013	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.85	114.00	1801899	46.0		92%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	83.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.28	91.00	124358	1.2	0.9	
27	trans-1,3-dichloropropene	10081-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	18.17	112.00	10100	ND	0.9	
32	Ethyl benzene	100-41-4	16.74	91.00	25758	ND	0.9	
33	m,p-Xylene	1330-20-7	16.93	91.00	58026	ND	0.9	
34	o-Xylene	95-47-6	17.48	91.00	24339	ND	0.9	
35	Styrene	100-42-5	17.37	104.00	14623	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	17.58	83.00	15445	ND	0.9	
37	Bromofluorobenzene (SS)		18.01	95.00	823473	47.4		85%
38	1,3,5-Trimethylbenzene	108-67-8	19.34	105.00	25424	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-8	19.87	105.00	32234	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	19.96	146.00	19725	ND	0.8	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	20.08	146.00	19940	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	20.57	146.00	21271	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	23.55	180.00	17035	1.0	0.9	
45	Hexachlorobutadiene	87-68-3	24.57	225.00	18382	1.0	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L68238, 1ppmv

920_58.D 920_100.D 920_20C.D 920_30C.D

Date Printed: 9/26/00 10:02 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col: SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15 Ici.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 187010 Severson/Olin 9/13/00

Autosampler: 9

Dil. Fact: 3.6

Misc: nalion off; 500 mL can 9334B N. of Soil Pad

5670MSD1

Method: 92000IS

File: C:\HPCHEM\1\92000\

1420174.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.11	117.00	1589677	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	10307	ND	1.8	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.8	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.8	
6	1,3-Butadiene	106-98-0	0.00	54.00	0	ND	1.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.8	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.8	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.8	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.8	
12	Methylene Chloride	75-08-2	7.50	84.00	23153	ND	1.8	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.8	
14	Methyl t-butyl ether (MTBE)	1634-04-4	8.42	73.00	14031	ND	1.8	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.8	
16	Bromochloromethane (SS)		8.78	130.00	397192	48.0		96%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.8	
18	1,1,1-Trichloroethane	71-55-8	0.00	97.00	0	ND	1.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.8	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.8	
21	Benzene	71-43-2	11.28	78.00	11976	ND	1.8	
22	1,4-Difluorobenzene (SS)		11.85	114.00	1705238	43.9		88%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.8	
25	cis-1,3-dichloropropene	542-75-6	13.09	75.00	17716	ND	1.8	
26	Toluene	108-88-3	14.22	91.00	402432	7.3	1.8	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.8	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.8	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.8	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.8	
32	Ethyl benzene	100-41-4	16.70	91.00	27998	ND	1.8	
33	m,p-Xylene	1330-20-7	16.93	91.00	57316	ND	1.8	
34	o-Xylene	95-47-6	17.46	91.00	20490	ND	1.8	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.8	
37	Bromofluorobenzene (SS)		17.99	95.00	826641	48.1		96%
38	1,3,5-Trimethylbenzene	108-67-8	19.31	105.00	14084	ND	1.8	
39	1,2,4-Tmmethylbenzene	95-63-6	19.85	105.00	23880	ND	1.8	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.8	
41	Benzyl chloride	100-44-7	20.57	91.00	13947	2.0	1.8	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.8	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.8	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.8	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.8	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_58.D 920_100.D

920_20C.D

920_30C.D

Date Printed:

9/26/00 10:03 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_lo.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Research Triangle Park Laboratories, Inc
8100 Brownlough Drive, Suite 120
Raleigh, North Carolina 27617 (new zipcode)
Phone: 919-510-0228 Fax: 919-510-0141
Web Site: www.rtp-labs.com

Chain of Custody Record

ISO 17025 Compliant for Testing Labs



TOTAL P.02

Client <u>Savenson Environmental</u>	Project Manager <u>Bill M.</u>	Phone Number <u>918-657-4546</u>	Fax Number <u>918-657-4667</u>	Date: <u>9/17/00</u>
Address <u>c/o Olin Corp @ 51 Eames St.</u>		Requested Analyses		Page <u>1</u> of <u>1</u>
City <u>Wilmington</u>	State <u>MA</u>	Zip Code <u>01887</u>	RTP Labs Proj. Tracking No.: <u>197010</u>	
Contract/Purchase Order No.:	Project Name: <u>Olin Remediation</u>			

Sample ID No. and Description	Date	Time	Matrix Air, Lq, Solid	Preservatives	# of Containers	TL-15	Library	Search	Comments	Fraction
93020 Swedrum Area A	9-11-00	1700	Air							
93229 East of gate tubiocal	↓	↓	↓							
9428BB North of Area B	↓	↓	↓							
9605B North of soil pad	9-11-00	1700								
93294 Swedrum Area A	9-13-00	1830								
4304 East of First gate to BC	↓	↓	↓							
9334B North of soil pad	↓	↓	↓							
12256 North of Area B	9-13-00	1830	Air							

Turn Around Time Requested for Report: Business Days: * Rush MultiPlex (Kx)
☐ 1 day (4x) ☐ 2 days (3x) ☐ 3 days (2x) ☐ 5 days (1.5x) ☐ 10 days (1.1x) ☐ 15 days

Date Pack: Std ☐ Full ☐ (1.1x surchar)
Electronic Deliverable: ☐ (1.1x surchar)

Possible Hazard/ Known Concentrations:

Relinquished By: [Signature] Date: 9/19/00 Time: 1730

Received By: _____ Date: _____ Time: _____

Relinquished By: Via Fed Express Archill H Date: 9/20/00 Time: 10:00 AM

Received By: [Signature] Date: 9-20-00 Time: 10:00 AM



INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Willimington MA 01887

Project: 197236
Received: 28-SEP-00
Reported: 11-OCT-00

Project Description: Olin Remediation: Summas
TO-15 & Lib. Search

Sampled: 18-SEP-00 17:15

RESULTUNITSMETHODDATEANALYST93254 SW of drum Area A

Lab Sample: 1421096

See Attached Report

93120 East of first gate to bio cell

Lab Sample: 1421097

See Attached Report

12533 North of concrete soil pond

Lab Sample: 1421098

See Attached Report

93047 North of Area B

Lab Sample: 1421099

See Attached Report

< Indicates less than the limit of quantitation.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 197010
Sample Date: 9/11/2000 Matrix: Air in Summa Canister
Analysis Date: 9/25/2000 Date Received: 9/20/2000

Sample ID: 1420171 canister 9605B "North of Soil Pad"

Compound Estimated ppbv*

2,4,4-trimethyl-1-pentene	35
2,3,4-trimethyl pentane	25
1-ethyl-3-methyl benzene	12
1,1,2,3-tetramethyl cyclohexane	12
1-ethyl-2,2,6-trimethylcyclohexane	11
4-ethyl-1,2-dimethyl benzene	14
1-ethyl-2,3-dimethyl benzene	11
1,2,3,4,5-tetramethyl benzene	18
decahydro-2-methyl naphthalene	17
2,6-dimethyl undecane	58
2-butyl-1,1,3-trimethyl cyclohexane	12
7-methyl tridecane	49

Sample Date: 9/13/2000

Sample ID: 1420172 canister 93294 "South West of Drum Area A"

Compound Estimated ppbv*

No TICs found

Sample Date: 9/13/2000

Sample ID: 1420173 canister A304 "East of First Gate to BC"

Compound Estimated ppbv*

No TICs found

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 197010.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 197010
Sample Date: 9/11/2000 9/13/00 Matrix: Air in Summa Canister
Analysis Date: 9/25/2000 Date Received: 9/20/2000

Sample ID: 1420174 canister 9334B "North of Soil Pad"

Compound	Estimated ppbv*
Butanoic acid, ethyl ester	92
Acetic acid, butyl ester	11
Butanoic acid, propyl ester	56
Pentanoic acid, ethyl ester	33
2-methyl-propanoic acid, butyl ester	19
Hexanoic acid, ethyl ester	30

Sample ID: 1420175 canister 12256 "North of Area B"

Compound	Estimated ppbv*
No TICs found	

*Estimated values were calculated against the *d*₅-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 197010.doc/als

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197010 Sevenson/Olin 9/13/00 Autosampler: 10 Dil. Fact: 1.7
 Misc: nation off, 500 mL; can 93348 N. of Area B 5970MSD1
 Method: 820001S 12256 File: C:\HPCHEM\1192000\ 1420175.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.10	117.00	1602080	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.18	85.00	18141	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	82.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.9	
10	1,1-Dichloroethane	75-35-4	0.00	81.00	0	ND	0.9	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	7.50	84.00	13936	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.78	130.00	405855	48.6		97%
17	Chloroform	67-68-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-8	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	58-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.28	78.00	14046	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.83	114.00	2046544	52.3		105%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.24	91.00	225620	2.0	0.9	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	13.66	97.00	12100	ND	0.9	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	18.72	91.00	19591	ND	0.9	
33	m,p-Xylene	1330-20-7	16.94	91.00	42177	ND	0.9	
34	o-Xylene	95-47-8	17.46	91.00	15917	ND	0.9	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.9	
36	1,1,2,2-Tetrachloroethane	78-34-5	0.00	83.00	0	ND	0.9	
37	Bromofluorobenzene (SS)		18.00	95.00	843508	48.7		97%
38	1,3,5-Trimethylbenzene	108-67-8	0.00	105.00	0	ND	0.9	
39	1,2,4-Trimethylbenzene	95-53-8	19.87	105.00	13444	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	20.07	146.00	10525	ND	0.9	
41	Benzyl chloride	100-44-7	20.52	91.00	11329	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	20.07	146.00	10525	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-88-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_5B.D 920_10D.D 920_20C.D 920_30C.D

Date Printed: 9/28/00 10:32 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech; -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_id.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Research Triangle Park Laboratories, Inc.

8100 Brownlough Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 197010

Sample Date: 9/11/2000

Matrix: Air in Summa Canister

Analysis Date: 9/25/2000

Date Received: 9/20/2000

Sample ID: 1420168 canister 93020 "SW of drum Area A"

Compound	Estimated ppbv*
4,6-dimethyl dodecane	53
4-methyl decane	32
2,6,10-trimethyl dodecane	501
Nonadecane	110
Tetradecane	155
Pentadecane	123

Sample ID: 1420169 canister 93229 "East of first gate to Biocell"

Compound	Estimated ppbv*
4,6-dimethyl dodecane	11
Heneicosane	6
2,6,11,15-tetramethyl hexadecane	6
2,6,10-trimethyl dodecane	18

Sample ID: 1420170 canister 9428BB "North of Area B"

Compound	Estimated ppbv*
2,6,10-trimethyl dodecane	6

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 197010.doc/als

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 187236 Severson/Olin 8/18/00 Autosampler: 11 Dil. Fact: 3.1
 Misc: nafen off: 500mL; SW of Drum Area A 5970MSD1
 Method: 920001S File: C:\HPCHEM\1\920001 1421095.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1013167	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	0.00	85.00	0	ND	1.6	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.6	
4	1,2-Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	1.6	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.6	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.6	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.6	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.6	
9	Trichlorofluoromethane (11)	75-89-4	0.00	101.00	0	ND	1.6	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.6	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.6	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.6	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.6	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.6	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.6	
16	Bromochloromethane (SS)		9.78	130.00	267855	50.7		101%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.6	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.6	
19	1,2-Dichloroethane	107-00-2	0.00	62.00	0	ND	1.6	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.6	
21	Benzene	71-43-2	0.00	78.00	0	ND	1.6	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1077650	43.6		87%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.6	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.6	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.6	
26	Toluene	108-88-3	14.24	91.00	48630	ND	1.6	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.6	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.6	
29	Tetrachloroethene	127-18-4	15.37	164.00	301454	20.8	1.6	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.6	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.6	
32	Ethyl benzene	100-41-4	16.70	91.00	24529	ND	1.6	
33	m,p-Xylene	1330-20-7	16.91	91.00	74552	ND	1.6	
34	o-Xylene	95-47-6	17.44	91.00	24141	ND	1.6	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.6	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.6	
37	Bromofluorobenzene (SS)		17.99	95.00	476496	43.5		87%
38	1,3,5-Trimethylbenzene	108-87-8	19.13	105.00	14748	ND	1.6	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	14175	ND	1.6	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.6	
41	Benzyl chloride	100-44-7	20.57	91.00	13264	2.6	1.6	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.6	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.6	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.6	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.6	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L89236, 1ppmv

920_5B.D 920_100.D 920_20C.D 920_30C.D

Date Printed: 10/6/00 9:21 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Cot:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C. TO14/15_lo

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197236 Severson/Olin 9/18/00

Autosampler: 12

Dil. Fact: 2.6

Misc: napon off; 500mL; E. of 1st gate to biocell

5970MSD1

Method: 920001S

File: C:\HPCHEM\1192000\

1421097.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.10	117.00	894553	50.0		100%
2	Dichlorodifluoroethane (12)	75-71-8	2.15	85.00	12037	ND	1.3	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.3	
4	1,2-Di-1,1,2,2-Tetrafluoroethane (114)	76-14-2	0.00	85.00	0	ND	1.3	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.3	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.3	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.3	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.3	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.3	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.3	
11	1,1,2-Di-1,1,2,2-Tetrafluoroethane (113)	76-13-1	0.00	151.00	0	ND	1.3	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.3	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.3	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.3	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.3	
16	Bromochloromethane (SS)		9.78	130.00	254248	54.6		108%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.3	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.3	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.3	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.3	
21	Benzene	71-43-2	0.00	78.00	0	ND	1.3	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1014433	46.4		93%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.3	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.3	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.3	
26	Toluene	108-88-3	14.26	91.00	55015	ND	1.3	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.3	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.3	
29	Tetrachloroethene	127-18-4	15.38	164.00	100647	6.6	1.3	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.3	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.3	
32	Ethyl benzene	100-41-4	16.72	91.00	13261	ND	1.3	
33	m,p-Xylene	1330-20-7	16.92	91.00	41098	ND	1.3	
34	o-Xylene	95-47-6	17.45	91.00	14148	ND	1.3	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.3	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.3	
37	Bromofluorobenzene (SS)		17.98	95.00	421560	43.6		87%
38	1,3,5-Trimethylbenzene	108-87-8	19.13	105.00	16127	ND	1.3	
39	1,2,4-Trimethylbenzene	95-83-8	19.85	105.00	15854	ND	1.3	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.3	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	1.3	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.3	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.3	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.3	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.3	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_58.D 920_100.D

920_200.D

920_300.D

Date Printed:

10/8/00 9:24 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col: SPB-1 Fused Silica; 30m x 0.25mm, 0.25µ film, direct interface, -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Notes: -5C Tenax/Anasorb 747 Trap, desorb @ 180C; TO14/15 Ici.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets

TO-14/TO15 GC/MS Volatiles Report

Sample: Philip 197236 Severson/Olin 9/18/00 Autosampler: 13 Dil. Fact: 1.7
 Misc: nation off; 500mL; N. of Concrete soil Pad 8970MSD1
 Method: 920001S File: C:\HPCHEM\1\920001 1421098.D Reporting

Compd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1234782	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.15	85.00	15232	ND	0.9	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.9	
4	1,2-Cl-1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.9	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.9	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.9	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.9	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.9	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.9	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.9	
11	1,1,2-Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.9	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.9	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.9	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.9	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.9	
16	Bromochloromethane (SS)		9.74	130.00	348359	54.2		108%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.9	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.9	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.9	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.9	
21	Benzene	71-43-2	11.26	78.00	15461	ND	0.9	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1474904	48.9		98%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.9	
24	1,2-dichloropropane	78-87-5	0.00	83.00	0	ND	0.9	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.9	
26	Toluene	108-88-3	14.24	91.00	43022	ND	0.9	
27	trans-1,3-dichloropropene	10061-02-5	0.00	75.00	0	ND	0.9	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.9	
29	Tetrachloroethene	127-18-4	15.37	164.00	75994	2.4	0.9	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.9	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.9	
32	Ethyl benzene	100-41-4	16.70	91.00	12196	ND	0.9	
33	m,p-Xylene	1330-20-7	16.93	91.00	37861	ND	0.9	
34	o-Xylene	95-47-6	17.44	91.00	13252	ND	0.9	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.9	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.9	
37	Bromofluorobenzene (SS)		17.99	95.00	607431	45.5		91%
38	1,3,5-Trimethylbenzene	108-87-8	0.00	105.00	0	ND	0.9	
39	1,2,4-Trimethylbenzene	95-63-6	0.00	105.00	0	ND	0.9	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.9	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	0.9	
42	1,4-Dichlorobenzene	106-46-7	0.00	148.00	0	ND	0.9	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.9	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.9	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.9	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_5B.D 920_10D.D 920_20C.D 920_30C.D

Date Printed: 10/6/00 9:26 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard. IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutach: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_id.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14/TO15 GC/MS Volatiles Report

Sample: Philip 197236 Severson/Olin 9/18/00

Autosampler: 14

Dil. Fact: 1.9

Misc: nation off; 500mL; North of Area B

5970MSD1

Method: 82000IS

File: C:\HPCHEM\11820001

1421099.D

Reporting

Compd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.09	117.00	1265998	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.15	85.00	14881	ND	1.0	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.0	
4	1,2-Cl-1,1,2,2-F-ethane (114)	78-14-2	0.00	85.00	0	ND	1.0	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.0	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.0	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.0	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.0	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.0	
10	1,1-Dichloroethene	75-35-4	0.00	81.00	0	ND	1.0	
11	1,1,2-Cl-1,2,2-F-ethane (113)	76-13-1	0.00	151.00	0	ND	1.0	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.0	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.0	
14	Methyl t-butyl ether (MTBE)	1834-04-4	0.00	73.00	0	ND	1.0	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.0	
16	Bromochloromethane (SS)		9.78	130.00	363032	55.1		110%
17	Chloroform	67-66-3	0.00	83.00	0	ND	1.0	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.0	
19	1,2-Dichloroethane	107-06-2	0.00	82.00	0	ND	1.0	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.0	
21	Benzene	71-43-2	11.26	78.00	16305	ND	1.0	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1562110	50.5		101%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.0	
24	1,2-dichloropropane	78-87-5	0.00	83.00	0	ND	1.0	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.0	
26	Toluene	108-88-3	14.24	91.00	85162	1.0	1.0	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.0	
28	1,1,2-Trichloroethane	79-00-5	13.61	97.00	79073	2.5	1.0	
29	Tetrachloroethene	127-18-4	15.39	164.00	47479	1.6	1.0	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.0	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.0	
32	Ethyl benzene	100-41-4	16.70	91.00	12793	ND	1.0	
33	m,p-Xylene	1330-20-7	18.93	91.00	35737	ND	1.0	
34	o-Xylene	95-47-6	17.44	91.00	12258	ND	1.0	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.0	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.0	
37	Bromofluorobenzene (SS)		17.99	95.00	810486	44.6		89%
38	1,3,5-Trimethylbenzene	108-67-8	0.00	105.00	0	ND	1.0	
39	1,2,4-Trimethylbenzene	95-63-6	19.85	105.00	10618	ND	1.0	
40	1,3-Dichlorobenzene	541-73-1	0.00	148.00	0	ND	1.0	
41	Benzyl chloride	100-44-7	20.57	91.00	10975	1.1	1.0	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.0	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.0	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.0	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.0	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_5B.D 920_10D.D

920_20C.D

920_30C.D

Date Printed:

10/6/00 9:28 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard, IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_1c1

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 197010
Sample Date: 9/18/2000 Matrix: Air in Summa Canister
Analysis Date: 10/5/2000 Date Received: 9/28/2000

Sample ID: 1421096 canister 93254 "SW of drum Area A"

Compound	Estimated ppbv*
----------	-----------------

2,2,5-trimethyl hexane	8
hexanal	15

Sample ID: 1421097 canister 63120 "East of first gate to Biocell"

Compound	Estimated ppbv*
----------	-----------------

No TICs detected

Sample ID: 1421098 canister 12533 "North of Concrete Soil Pad"

Compound	Estimated ppbv*
----------	-----------------

Butanal	27
formic acid, butyl acid	29
dimethyl disulfide	5

Sample ID: 1421099 canister 93047 "North of Area B"


Compound	Estimated ppbv*
----------	-----------------

2,4,4-trimethyl-1-pentene	30
2,2,6,6-tetramethyl-4-heptene	7
2,2,4,6,6-pentamethyl-3-heptene	8
dimethyl disulfide	5

*Estimated values were calculated against the *o*-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: I97236.doc/als

Chain of Custody Record





INDUSTRIAL HYGIENE

ENVIRONMENTAL TESTING

• EPA/NVLAP 101262-0
• AIHA ACCREDITATION NO. 100439

• NY DOH 10903
• PA DER 06-353

• NJ DEP 77678

ANALYTICAL REPORT

Client: Severson Environmental Services, Inc.
Report to: Adam Hibbard
Severson Environmental Services, Inc.
51 Eames Street
Willimington MA 01887

Project: 197504
Received: 09-OCT-00
Reported: 31-OCT-00

Project Description: Olin Remediation Summas
TO-15 & Lib. Search

<u>RESULT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>DATE</u>	<u>ANALYST</u>
---------------	--------------	---------------	-------------	----------------

11344 N. Side Bio Cell

Lab Sample: 1422250
sampled: 28-SEP-00 17:30

See Attached Report

93242 S. Side Bio Cell

Lab Sample: 1422251
sampled: 28-SEP-00 17:30

See Attached Report

11412 N. Side Debris Area

Lab Sample: 1422252
sampled: 28-SEP-00 17:30

See Attached Report

00183 S. Side Debris Area

Lab Sample: 1422253
sampled: 28-SEP-00 17:30

See Attached Report

92044 N. Side Bio Cell

Lab Sample: 1422254
sampled: 29-SEP-00 17:30

See Attached Report

PHILIP**ANALYTICAL SERVICES****INDUSTRIAL HYGIENE****ENVIRONMENTAL TESTING**

- EPA/NVLAP 101262-0
- AIHA ACCREDITATION NO. 100439

- NY DOH 10903
- PA DER 06-353

- NJ DEP 77673

Client: Severson Environmental Services, Inc.
Project: 197504

RESULTUNITSMETHODDATEANALYST92025 S. Side Bio Cell

Lab Sample: 1422255

sampled: 29-SEP-00 17:30

See Attached Report

93178 N. Side Debris Area

Lab Sample: 1422256

sampled: 29-SEP-00 17:30

See Attached Report

02488 S. Side Debris Area

Lab Sample: 1422257

sampled: 29-SEP-00 17:30

See Attached Report

< Indicates less than the limit of quantitation.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197504 Severson/Olin 9/28/00 Autosampler: 9 Dil. Fact: 1.7
 Misc: 500mL can 11344; N Side of Bio Cell 5970MSD1
 Method: 920001S File: C:\HPCHEM\1\920001 1422250.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	709485	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	17987	ND	0.8	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.8	
4	1,2- Cl- 1,1,2,2-F ethane (114)	76-14-2	0.00	85.00	0	ND	0.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.8	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.8	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.8	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.8	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	0.8	
12	Methylene Chloride	75-09-2	7.48	84.00	19065	1.3	0.8	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.8	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.8	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.8	
16	Bromochloromethane (SS)		9.76	130.00	233355	63.2		126%
17	Chloroform	67-86-3	0.00	83.00	0	ND	0.8	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.8	
20	Carbon tetrachloride	58-23-5	0.00	117.00	0	ND	0.8	
21	Benzene	71-43-2	11.18	78.00	339837	7.8	0.8	
22	1,4-Difluorobenzene (SS)		11.79	114.00	1144301	66.1		132%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	0.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.8	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.8	
26	Toluene	108-88-3	14.19	91.00	227703	4.3	0.8	
27	trans-1,3-dichloropropene	10061-02-8	0.00	75.00	0	ND	0.8	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.8	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.8	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.8	
32	Ethyl benzene	100-41-4	16.68	91.00	19991	ND	0.8	
33	m,p-Xylene	1330-20-7	16.89	91.00	46780	ND	0.8	
34	o-Xylene	95-47-6	17.42	91.00	18144	ND	0.8	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.8	
37	Bromofluorobenzene (SS)		17.95	95.00	325411	42.4		85%
38	1,3,5-Trimethylbenzene	108-67-8	19.10	105.00	20359	ND	0.8	
39	1,2,4-Trimethylbenzene	95-83-6	19.81	105.00	20095	ND	0.8	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.8	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	0.8	
42	1,4-Dichlorobenzene	106-48-7	0.00	146.00	0	ND	0.8	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.8	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.8	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv
 920_5B.D 920_10D.D 920_20C.D 920_30C.D

Date Printed: 10/17/00 10:16 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 160 @ 8/m; 35-300 amu full scan

Notes: -5C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15_id.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197504 Severson/Olin 9/28/00 Autosampler: 10 Dil. Fact: 1.7
 Misc: 500mL; can 93242, S. Side of Bio Cell 5970MSD1
 Method: 920001S File: C:\HPCHEM\11920001 1422251.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Reporting Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		18.07	117.00	887130	30.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.18	85.00	18763	ND	0.8	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.8	
4	1,2- Cl- 1,1,2,2- F ethane (114)	78-14-2	0.00	85.00	0	ND	0.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.8	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.8	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.8	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.8	
11	1,1,2- Cl 1,2,2- F ethane (113)	78-13-1	0.00	151.00	0	ND	0.8	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.8	
13	1,1-dichloroethane	75-34-3	0.00	83.00	0	ND	0.8	
14	Methyl t-butyl ether (MTBE)	1834-04-4	0.00	73.00	0	ND	0.8	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.8	
16	Bromochloromethane (SS)		9.74	130.00	287707	62.3		125%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.8	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.8	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.8	
21	Benzene	71-43-2	11.21	78.00	188803	3.5	0.8	
22	1,4-Difluorobenzene (SS)		11.79	114.00	1451327	87.0		134%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	0.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.8	
25	cis-1,3-dichloropropene	542-75-8	0.00	75.00	0	ND	0.8	
26	Toluene	108-88-3	14.22	91.00	84883	1.3	0.8	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.8	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.8	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.8	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.8	
32	Ethyl benzene	100-41-4	16.68	91.00	12245	ND	0.8	
33	m,p-Xylene	1330-20-7	16.89	91.00	31780	ND	0.8	
34	o-Xylene	95-47-6	17.42	91.00	13192	ND	0.8	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.8	
37	Bromofluorobenzene (SS)		17.95	95.00	395748	41.2		82%
38	1,3,5-Trimethylbenzene	108-87-8	19.10	105.00	14617	ND	0.8	
39	1,2,4-Trimethylbenzene	95-63-8	19.81	105.00	16927	ND	0.8	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.8	
41	Benzyl chloride	100-44-7	20.53	91.00	13529	1.6	0.8	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.8	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.8	
45	Hexachlorobutadiene	87-88-3	0.00	225.00	0	ND	0.8	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_58.D 920_100.D 920_20C.D 920_30C.D

Date Printed: 10/17/00 10:17 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Cot:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film, direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -6C Tenax/Anasorb 747 Trap; desorb @ 180C; TO14/15 Ici.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197504 Severson/Olin 9/28/00

Autosampler: 11

Dil. Fact: 3.1

Misc: 500mL; can 11412: N. Side of Debris Area

5970MSD1

Method: 920001S

File: C:\HPCHEM\1920001

1422252.D

Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	897403	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	0.00	85.00	0	ND	1.6	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.6	
4	1,2- Cl-1,1,2,2-F ethane (114)	78-14-2	0.00	85.00	0	ND	1.6	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.6	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.6	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.6	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.6	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.6	
10	1,1-Dichloroethene	78-35-4	0.00	61.00	0	ND	1.6	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.6	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.6	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.6	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	1.6	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.6	
16	Bromochloromethane (SS)		9.76	130.00	268674	57.1		114%
17	Chloroform	67-68-3	0.00	83.00	0	ND	1.6	
18	1,1,1-Trichloroethane	71-55-5	0.00	97.00	0	ND	1.6	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.6	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.6	
21	Benzene	71-43-2	11.23	78.00	124989	4.2	1.6	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1322934	80.4		121%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	1.6	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	1.6	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.6	
26	Toluene	108-88-3	14.24	91.00	49538	ND	1.6	
27	trans-1,3-dichloropropene	10061-02-8	0.00	75.00	0	ND	1.6	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	1.6	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	1.6	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.6	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.6	
32	Ethyl benzene	100-41-4	16.91	91.00	27060	ND	1.6	
33	m,p-Xylene	1330-20-7	16.91	91.00	27060	ND	1.6	
34	o-Xylene	95-47-6	17.42	91.00	11898	ND	1.6	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.6	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.6	
37	Bromofluorobenzene (SS)		17.97	95.00	397521	40.9		82%
38	1,3,5-Trimethylbenzene	108-87-8	0.00	105.00	0	ND	1.6	
39	1,2,4-Trimethylbenzene	95-63-6	19.83	105.00	10894	ND	1.6	
40	1,3-Dichlorobenzene	541-73-1	0.00	148.00	0	ND	1.6	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	1.6	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.6	
43	1,2-Dichlorobenzene	95-50-1	0.00	148.00	0	ND	1.6	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.6	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.6	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_58.0 920_100.D

920_20C.D

920_30C.D

Date Printed:

10/17/00:10:17 AM

Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard. IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface: -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap; desorb @ 180C, TO14/15_Lci

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197504 Severson/Olin 9/28/00 Autosampler: 12 Dil. Fact: 1.7
 Misc: 500mL; can 0183; S Side of Debris Area 5970MSD1
 Method: 920001S File: C:\HPCHEM\192000\ 1422253.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Reporting Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-q5 (IS)		18.09	117.00	888881	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.18	85.00	17608	ND	0.8	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.8	
4	1,2- Cl- 1,1,2,2-Fluoromethane (114)	76-14-2	0.00	85.00	0	ND	0.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.8	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.8	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.8	
10	1,1-Dichloroethene	75-35-4	0.00	81.00	0	ND	0.8	
11	1,1,2- Cl 1,2,2- Fluoromethane (113)	76-13-1	0.00	151.00	0	ND	0.8	
12	Methylene Chloride	75-09-2	7.50	84.00	22170	1.2	0.8	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.8	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.8	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.8	
16	Bromochloromethane (SS)		9.77	130.00	260359	56.2		112%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.8	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.8	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.8	
21	Benzene	71-43-2	11.25	78.00	127049	2.3	0.8	
22	1,4-Difluorobenzene (SS)		11.83	114.00	1189518	54.8		110%
23	Trichloroethene	79-01-5	0.00	130.00	0	ND	0.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.8	
25	cis-1,3-dichloropropene	542-75-8	0.00	75.00	0	ND	0.8	
26	Toluene	108-88-3	14.24	91.00	93906	1.4	0.8	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	0.8	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.8	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.8	
30	1,2-Dibromomethane	106-93-4	0.00	107.00	0	ND	0.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.8	
32	Ethyl benzene	100-41-4	16.70	91.00	15418	ND	0.8	
33	m,p-Xylene	1330-20-7	16.91	91.00	38884	ND	0.8	
34	o-Xylene	95-47-6	17.44	91.00	14835	ND	0.8	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.8	
37	Bromofluorobenzene (SS)		17.98	95.00	399281	41.5		83%
38	1,3,5-Trimethylbenzene	108-67-8	19.13	105.00	16423	ND	0.8	
39	1,2,4-Trimethylbenzene	95-63-6	19.83	105.00	16710	ND	0.8	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.8	
41	Benzyl chloride	100-44-7	20.55	91.00	19354	2.3	0.8	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.8	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.8	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.8	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69238, 1ppmv

920_5B.D 920_100.D 920_20C.D 920_30C.D

Date Printed: 10/17/00 10:23 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica, 30m x 0.25mm, 0.25u film, direct interface, -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap, desorb @ 180C; TO14/15_lci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197504 Severson/Olin 9/29/00 Autosampler: 13 Dil. Fact: 1.7
 Misc: 500mL; can 92044: N Side of Bio Cell 5970MSD1
 Method: 920001S File: C:\HPCHEM\1\920001 1422254.D Reporting

Compd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Reporting Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	894101	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.22	85.00	16901	ND	0.8	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.8	
4	1,2- Cl- 1,1,2,2- F ethane (114)	76-14-2	0.00	85.00	0	ND	0.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.8	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.8	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.8	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.8	
11	1,1,2- Cl 1,2,2- F ethane (113)	78-13-1	0.00	151.00	0	ND	0.8	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.8	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.8	
14	Methyl t-butyl ether (MTBE)	1834-04-4	0.00	73.00	0	ND	0.8	
15	cis-1,2-Dichloroethene	156-58-2	0.00	81.00	0	ND	0.8	
18	Bromochloromethane (SS)		9.76	130.00	261674	56.2		112%
17	Chloroform	67-66-3	10.07	83.00	36990	ND	0.8	
18	1,1,1-Trichloroethane	71-55-6	0.00	87.00	0	ND	0.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.8	
20	Carbon tetrachloride	58-23-5	0.00	117.00	0	ND	0.8	
21	Benzene	71-43-2	11.23	78.00	103779	1.9	0.8	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1097777	50.3		101%
23	Trichloroethene	79-01-8	0.00	130.00	0	ND	0.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.8	
25	cis-1,3-dichloropropene	542-75-8	0.00	75.00	0	ND	0.8	
26	Toluene	108-88-3	14.22	91.00	88114	1.3	0.8	
27	trans-1,3-dichloropropene	10081-02-8	0.00	75.00	0	ND	0.8	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.8	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.8	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.8	
32	Ethyl benzene	100-41-4	16.68	91.00	14734	ND	0.8	
33	m,p-Xylene	1330-20-7	16.89	91.00	39350	ND	0.8	
34	o-Xylene	95-47-6	17.42	91.00	15354	ND	0.8	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.8	
37	Bromofluorobenzene (SS)		17.97	95.00	399599	41.3		83%
38	1,3,5-Trimethylbenzene	108-87-8	19.11	105.00	15885	ND	0.8	
39	1,2,4-Trimethylbenzene	95-83-6	19.83	105.00	16380	ND	0.8	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.8	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	0.8	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.8	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.8	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.8	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_58.D 920_100.D 920_20C.D 920_30C.D

Date Printed: 10/17/00 10:18 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits SS = Surrogate Standard: IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film, direct interface, -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutec: -5C Tenax/Anasorb 747 Trap, desorb @ 180C; TO14/15_tci.

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197504 Severson/Olin 9/29/00 Autosampler: 14 Dil. Fact: 1.7
 Misc: 500mL; can 92025; S. Side of Bio Cell 5970MSD1
 Method: 920001S File: C:\HPCHEM\192000\ 1422255.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q ion	Area	ppbv	Reporting Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		16.06	117.00	866272	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	2.20	85.00	16901	ND	0.8	
3	Chloromethane	74-87-3	2.01	52.00	45569	10.1	0.8	
4	1,2- Cl- 1,1,2,2-Fluoromethane (114)	76-14-2	0.00	85.00	0	ND	0.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.8	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.8	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.8	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	0.8	
11	1,1,2- Cl- 1,2,2- Fluoromethane (113)	76-13-1	0.00	151.00	0	ND	0.8	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.8	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.8	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.8	
15	cis-1,2-Dichloroethene	156-59-2	0.00	81.00	0	ND	0.8	
16	Bromochloromethane (SS)		9.73	130.00	275322	61.0		122%
17	Chloroform	67-66-3	10.00	83.00	84332	2.0	0.8	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.8	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.8	
21	Benzene	71-43-2	11.20	78.00	88508	1.7	0.8	
22	1,4-Difluorobenzene (SS)		11.80	114.00	1182410	55.9		112%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.8	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.8	
26	Toluene	108-88-3	14.19	91.00	112406	1.8	0.8	
27	trans-1,3-dichloropropene	10061-02-6	13.85	75.00	66537	3.0	0.8	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.8	
29	Tetrachloroethene	127-18-4	15.34	164.00	49888	2.2	0.8	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.8	
32	Ethyl benzene	100-41-4	16.66	91.00	16800	ND	0.8	
33	m,p-Xylene	1330-20-7	16.86	91.00	58041	ND	0.8	
34	o-Xylene	95-47-6	17.41	91.00	19504	ND	0.8	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.8	
37	Bromofluorobenzene (SS)		17.98	95.00	391904	41.8		84%
38	1,3,5-Trimethylbenzene	108-87-8	19.09	105.00	19022	ND	0.8	
39	1,2,4-Trimethylbenzene	95-63-6	19.81	105.00	20294	ND	0.8	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.8	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	0.8	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.8	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.8	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.8	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L59236, 1ppmv

920_58.D 920_100.D 920_20C.D 920_30C.D

Date Printed: 10/17/00 10:18 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard. IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25µm film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutec. -5C Tenax/Anasorb 747 Trap. desorb @ 180C; TO14/15_lci

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 187504 Severson/Olin 8/29/00

Autosampler: 15

Dil. Fact: 3.3

Misc: 500mL; can 93178; N. Side of Debris Area

5970MSD1

Method: 92000IS

File: C:\HPCHEM\1192000\

1422256.D

Reporting

Limits

IS/Surr.

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	ppbv	Recovery
1	Chlorobenzene-d5 (IS)		16.07	117.00	744849	50.0		100%
2	Dichlorodifluoromethane (12)	75-71-8	0.00	85.00	0	ND	1.7	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	1.7	
4	1,2- Cl- 1,1,2,2- F ethane (114)	76-14-2	0.00	85.00	0	ND	1.7	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	1.7	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	1.7	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	1.7	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	1.7	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	1.7	
10	1,1-Dichloroethene	75-35-4	0.00	61.00	0	ND	1.7	
11	1,1,2- Cl 1,2,2- F ethane (113)	76-13-1	0.00	151.00	0	ND	1.7	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	1.7	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	1.7	
14	Methyl t-butyl ether (MTBE)	1834-04-4	0.00	73.00	0	ND	1.7	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	1.7	
16	Bromochloromethane (SS)		9.74	130.00	238129	61.4		123%
17	Chloroform	67-66-3	10.03	83.00	69072	3.7	1.7	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	1.7	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	1.7	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	1.7	
21	Benzene	71-43-2	11.23	78.00	53706	2.3	1.7	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1057182	58.1		116%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	1.7	
24	1,2-dichloropropane	78-87-5	0.00	83.00	0	ND	1.7	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	1.7	
26	Toluene	108-88-3	14.22	91.00	48210	1.7	1.7	
27	trans-1,3-dichloropropene	10061-02-6	0.00	75.00	0	ND	1.7	
28	1,1,2-Trichloroethane	79-00-5	0.00	87.00	0	ND	1.7	
29	Tetrachloroethene	127-18-4	15.35	164.00	27134	2.7	1.7	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	1.7	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	1.7	
32	Ethyl benzene	100-41-4	16.89	91.00	23711	ND	1.7	
33	m,p-Xylene	1330-20-7	16.89	91.00	23711	ND	1.7	
34	o-Xylene	95-47-8	17.42	91.00	10061	ND	1.7	
35	Styrene	100-42-5	0.00	104.00	0	ND	1.7	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	1.7	
37	Bromofluorobenzene (SS)		17.95	95.00	352312	43.7		87%
38	1,3,5-Trimethylbenzene	108-67-8	0.00	105.00	0	ND	1.7	
39	1,2,4-Trimethylbenzene	95-63-6	0.00	105.00	0	ND	1.7	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	1.7	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	1.7	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	1.7	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	1.7	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	1.7	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	1.7	

Calibration Data:

NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_58.D 920_100.D

920_200.D

920_300.D

Date Printed:

10/17/00 10:19 AM

Report: TO-15RPT3 XLS

ND = Not Detected at the Reporting Limits. SS = Surrogate Standard. IS = Internal Standard 50 ng each

Col:SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface; -50C for 2 min to 150 @ 8/m; 35-300 amu full scan

Nutec: -5C Tenax/Anasorb 747 Trap, desorb @ 180C; TO14/15 Ici.

**Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets **

TO-14A/TO15 GC/MS Volatiles Report

Sample: Philip 197504 Severson/Olin 9/29/00 Autosampler: 16 Dil. Fact: 1.7
 Misc: 500mL; can 12488; S. Side of Debris Area 5970MSD1
 Method: 920001S File: C:\HPCHEM\11920001 1422257.D Reporting

Cmpd #	Compound	CAS #	R.T.	Q Ion	Area	ppbv	Limits ppbv	IS/Surr. Recovery
1	Chlorobenzene-d5 (IS)		18.07	117.00	906384	50.0		100%
2	Dichlorodifluoroethane (12)	75-71-8	2.22	85.00	18214	ND	0.8	
3	Chloromethane	74-87-3	0.00	52.00	0	ND	0.8	
4	1,2-Di-1,1,2,2-F ethane (114)	78-14-2	0.00	85.00	0	ND	0.8	
5	Vinyl chloride	75-01-4	0.00	62.00	0	ND	0.8	
6	1,3-Butadiene	106-99-0	0.00	54.00	0	ND	0.8	
7	Bromomethane	74-83-9	0.00	94.00	0	ND	0.8	
8	Chloroethane	75-00-3	0.00	64.00	0	ND	0.8	
9	Trichlorofluoromethane (11)	75-69-4	0.00	101.00	0	ND	0.8	
10	1,1-Dichloroethene	75-35-4	0.00	81.00	0	ND	0.8	
11	1,1,2-Di-1,2,2-F ethane (113)	76-13-1	0.00	151.00	0	ND	0.8	
12	Methylene Chloride	75-09-2	0.00	84.00	0	ND	0.8	
13	1,1-dichloroethane	75-34-3	0.00	63.00	0	ND	0.8	
14	Methyl t-butyl ether (MTBE)	1634-04-4	0.00	73.00	0	ND	0.8	
15	cis-1,2-Dichloroethene	156-59-2	0.00	61.00	0	ND	0.8	
16	Bromochloromethane (SS)		9.76	130.00	260300	55.2		110%
17	Chloroform	67-66-3	0.00	83.00	0	ND	0.8	
18	1,1,1-Trichloroethane	71-55-6	0.00	97.00	0	ND	0.8	
19	1,2-Dichloroethane	107-06-2	0.00	62.00	0	ND	0.8	
20	Carbon tetrachloride	56-23-5	0.00	117.00	0	ND	0.8	
21	Benzene	71-43-2	11.23	78.00	77557	1.4	0.8	
22	1,4-Difluorobenzene (SS)		11.81	114.00	1358614	61.4		123%
23	Trichloroethene	79-01-6	0.00	130.00	0	ND	0.8	
24	1,2-dichloropropane	78-87-5	0.00	63.00	0	ND	0.8	
25	cis-1,3-dichloropropene	542-75-6	0.00	75.00	0	ND	0.8	
26	Toluene	108-88-3	14.22	91.00	88281	1.3	0.8	
27	trans-1,3-dichloropropene	10081-02-6	0.00	75.00	0	ND	0.8	
28	1,1,2-Trichloroethane	79-00-5	0.00	97.00	0	ND	0.8	
29	Tetrachloroethene	127-18-4	0.00	164.00	0	ND	0.8	
30	1,2-Dibromoethane	106-93-4	0.00	107.00	0	ND	0.8	
31	Chlorobenzene	108-90-7	0.00	112.00	0	ND	0.8	
32	Ethyl benzene	100-41-4	16.68	91.00	12889	ND	0.8	
33	m,p-Xylene	1330-20-7	16.91	91.00	38816	ND	0.8	
34	o-Xylene	95-47-6	17.42	91.00	14993	ND	0.8	
35	Styrene	100-42-5	0.00	104.00	0	ND	0.8	
36	1,1,2,2-Tetrachloroethane	79-34-5	0.00	83.00	0	ND	0.8	
37	Bromofluorobenzene (SS)		17.87	95.00	396760	40.5		81%
38	1,3,5-Trimethylbenzene	108-67-8	19.11	105.00	13649	ND	0.8	
39	1,2,4-Trimethylbenzene	95-63-6	19.83	105.00	12969	ND	0.8	
40	1,3-Dichlorobenzene	541-73-1	0.00	146.00	0	ND	0.8	
41	Benzyl chloride	100-44-7	0.00	91.00	0	ND	0.8	
42	1,4-Dichlorobenzene	106-46-7	0.00	146.00	0	ND	0.8	
43	1,2-Dichlorobenzene	95-50-1	0.00	146.00	0	ND	0.8	
44	1,2,4-Trichlorobenzene	120-82-1	0.00	180.00	0	ND	0.8	
45	Hexachlorobutadiene	87-68-3	0.00	225.00	0	ND	0.8	

Calibration Data: NIST Traceable Standard Cylinder: Spectra Gases L69236, 1ppmv

920_58.D 920_100.D 920_20C.D 920_30C.D

Date Printed: 10/17/00 10:20 AM Report: TO-15RPT3.XLS

ND = Not Detected at the Reporting Limits SS = Surrogate Standard; IS = Internal Standard 50 ng each

Col: SPB-1 Fused Silica; 30m x 0.25mm, 0.25u film; direct interface: -50C for 2 min to 150 @ 8/m, 35-300 amu full scan

Nutech: -5C Tenax/Anasorb 747 Trap, desorb @ 180C; TO14/15_id

Note that 1,3-butadiene and MTBE are TO-15 compounds only and not TO-14 targets.

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120

Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax

Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Mass Spectral Library

Client: Philip Environmental Services

Contact: Jim Jacklin

Project No: 197504

Sample Date: 9/28/2000

Matrix: Air in Summa Canister

Analysis Date: 10/12/2000

Date Received: 10/9/2000

Sample ID: 1422250 canister 11344 "North Side of Biocell" 9/28/00 1730 hours

Compound

Estimated ppbv*

No TICs Detected

Sample ID: 1422251 canister 93242 "S. Side Bio Cell"

Compound

Estimated ppbv*

No TICs Detected

Sample ID: 1422252 canister 11412 "N. Side Debris Area"

Compound

Estimated ppbv*

No TICs Detected

Sample ID: 1422253 canister 0183 "S. Side Debris Area"

Compound

Estimated ppbv*

No TICs Detected

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.

File: 197504.doc/als

Research Triangle Park Laboratories, Inc.

8100 Brownleigh Drive, Suite 120
Raleigh, NC 27617



ISO 17025 Compliant

919 510-0228 Telephone

919 510-0141 Fax Web Site: www.rtp-labs.com

TENTATIVELY IDENTIFIED COMPOUNDS NIST/EPA 75,000 Mass Spectral Library

Client: Philip Environmental Services Contact: Jim Jacklin Project No: 197504

Sample Date: 9/29/2000

Matrix: Air in Summa Canister

Analysis Date: 10/12/2000

Date Received: 10/9/2000

Sample ID: 1422254 canister 920454 "North Side of Biocell" 9/29/00 1730 hours

Compound	Estimated ppbv*
----------	-----------------

No TICs Detected

Sample ID: 1422255 canister 92025 "S. Side Bio Cell"

Compound	Estimated ppbv*
----------	-----------------

Acetone	45
Butanal	17
3-methyl-2-propenal	32
Methyl Isobutyl Ketone	25
1-bromo-3-methyl-2-butene	25
Nitrocyclohexane	14
3-Hexen-2-one	56

Sample ID: 1422256 canister 93178 "N. Side Debris Area"

Compound	Estimated ppbv*
----------	-----------------

No TICs Detected

Sample ID: 1422257 canister 12488 "S. Side Debris Area"

Compound	Estimated ppbv*
----------	-----------------

No TICs Detected

*Estimated values were calculated against the *d*₇-Chlorobenzene internal standard assuming a 1:1 response ratio.
File: 197504.doc/als

Research Triangle Park Laboratories, Inc
8100 Brownleigh Drive, Suite 120
Raleigh, North Carolina 27617 (new zipcode)
Phone: 919-510-0228 Fax: 919-510-0141
Web Site: www.rtp-labs.com

Chain of Custody Record

ISO 17025 Compliant for Testing Labs

RTPLabs

TOTAL P.02

Client: SEVENSON ENVIRONMENTAL		Project Manager: Bill M.		Phone Number: 978-657-4546		Fax Number: 978-657-4627		Date: 10-7-00	
Address: 90 OLIN CORP & ST EAMES ST.				Requested Analyses:				Page 1 of 1	
City: WILMINGTON		State: MA.		Zip Code: 01817		RTP Labs Proj. Tracking No.: 197504			
Contract/Purchase Order No.:		Project Name: OLIN REMEDIATION		Preservatives		# of Containers		Comments	
Sample ID No. and Description		Date	Time	Matrix Air, Liq, Solid					Fraction #
11344 N. Side Bio cell		9-28-00	1730	AIR	NO	1	XX		
13242 S. Side Bio cell		↓	↓	↓	↓	1	XX		
1412 N. Side DEBRIS AREA		↓	↓	↓	↓	1	XX		
183 S. Side DEBRIS AREA		9-28-00	1730	↓	↓	1	XX		
2044 N. Side Bio CELL		9-27-00	1730	↓	↓	1	XX		
2025 S. Side Bio CELL		↓	↓	↓	↓	1	XX		
3178 N. Side DEBRIS AREA		9-27-00	1730	↓	↓	1	XX		
1488 S. Side DEBRIS AREA		9-27-00	1730	AIR	NO	1	XX		
Turn Around Time Requested for Report: Business Days; *Rush Multipliers (Xx) <input type="checkbox"/> 1 day*(4x) <input type="checkbox"/> 2 days*(3x) <input type="checkbox"/> 3 days*(2x) <input type="checkbox"/> 5 days*(1.5x) <input type="checkbox"/> 10 days*(1.1x) <input type="checkbox"/> 15 days				Data Pack: Std <input type="checkbox"/> Full <input type="checkbox"/> (1.1x surchar) Electronic Deliverable: <input type="checkbox"/> (1.1x surchar)		Possible Hazards/ Known Concentrations:			
Relinquished By: David C. Poiry		Date: 10/7/00	Time: 1330	Received By: SHIPPING LAG		Date: 10-9-00	Time: 10:00 AM		
Relinquished By: VIA Fed. Express		Date: 10/7/00	Time: 1330	Received By: Rebecca English		Date: 10-9-00	Time: 10:00 AM		